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THE HEALTH OF INDIA*

BY

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For more than 25 years I have studied the health situation in India with ever-increasing anxiety and with a growing conviction that the country was heading for a calamity which could not be prevented unless the people were aroused to a sense of their danger and thereby induced to take the road to safety that is open to them.

The health of India is a vast and complicated problem, but, like many other great problems, it will be found simple in its essential aspects if examined in the right way, which is to make a search for the basic principles concerned, and to refuse to allow one's attention to be distracted by side issues. When this method of inquiry is adopted it becomes clear that the health of human beings throughout the world is governed by certain natural laws which are so obvious that an apology would be needed for stating them if it were not that they are widely ignored.

These laws, though unwritten, have been discovered by the simple process of observing the state of health of groups of persons living in different ways in various parts of the world. It has been found that high standards of health and length of life are enjoyed by all the groups that follow a certain general plan of life, whereas ill-health and premature death are common in all the groups that fail to conform to this plan. It might be expected that differences of race and climate would have a disturbing influence on this observation, but these and other factors can be ignored, because it has been found that the better standards have always been achieved irrespective of all such considerations when the rules of healthy living have been adopted.

The Basic Law of Health

The basic law of health can be stated either as a command with a promise attached or as an article of a penal code. Expressed in the former way it would read: "Every community in which effective action has been taken to control all the diseases that can be prevented will be rewarded by a high standard of health and longevity." Stated in the other way the law would run like this: "Failure on the part of a community to protect itself against preventable diseases will be punished by sickness, misery, and premature death. These penalties are inflicted without mercy and in an indiscriminate manner on men, women, and children of the offending communities." The obvious is often overlooked, and this matter is so important that it deserves to be closely examined to make sure that the law just stated is clearly understood.

Malnutrition a Preventable Disease

First of all there is the question of what is meant by the term "preventable diseases." There is a general impression that the only important preventable diseases are those caused by infection; indeed, there are countries in which a high standard of health has been attained by concentrating attention almost exclusively on the control of these diseases. This success has given rise to the assumption that similar results can always be obtained by the prevention of infection, and accordingly the efforts of the public-health organizations have everywhere been directed towards this end. But there are many countries, of which India is one, where another group of diseases may be responsible for more sickness and premature death than all the infectious diseases taken together. This group consists of the types of malnutrition caused by insufficient and unsuitable food. The most casual observation of the people of any overcrowded country like India shows that most of the inhabitants suffer from lifelong ill-health and poor physical development, which are clearly due to faulty nourishment. There is also abundant evidence to show that in these countries most of the people who die prematurely of infectious diseases would have survived if their resisting powers had not been sapped by malnutrition. So that, although the official returns show one or other infectious disease as the cause of death, from the practical point of view the real cause has been malnutrition.

The means of preventing malnutrition has never been a mystery, so that in the strictest sense of the term it is a preventable disease. The real mystery connected with malnutrition is that in the countries where it is a major public-health problem no effective organizations have been set up to measure the harm that it does and to supply expert advice on the steps needed for its control.

I do not forget the valuable research work that has been done in India on the subject of nutrition; this has shown beyond any shadow of doubt that the diets of most of the people are quite inadequate to maintain health. The information made available by research ought by itself to have called attention to the need for a thorough investigation into the root causes of the inadequacy of the diets.

Rewards and Punishments

Let us see what standards of health can be obtained by complying with the basic law of health, and how these standards compare with those existing in India to-day.

It will be found that in every country in which malnutrition and infectious diseases have been reasonably well controlled the average length of life has increased to well over 55 years: indeed, it can be stated with some degree of confidence that when the knowledge already available has been fully applied to the prevention of disease an average duration of life of more than 60 years will easily be obtained. Seeing that the average length of life in India is less than half this figure, it is clear that the people are sacrificing more than half the period of existence that has been made available to them by Nature. This is not the whole story; the shortened span of life is spent in a disease-ridden and miserable condition.

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The remedy, of course, is obvious. So far as infectious diseases are concerned an effort has been made in India to apply the remedy, and already an appreciable degree of success has been achieved. I do not propose to deal with the subject of control of infection; this aspect of the public-health problem is being tackled on sound lines, and if the results have hitherto been disappointing the reason is that malnutrition has been allowed to persist.

The control of malnutrition is a straightforward matter; perhaps, indeed, the apparent simplicity of the problem has been the reason why the help of public-health experts has not been considered necessary, except in connexion with dietetic research. It has always been assumed that the only thing needed was to produce more food. By such means as the construction of great irrigation works and the introduction of improved methods of agriculture, enough extra food has actually been provided to feed many millions of people. Great credit is due to those who have planned and carried out these schemes.

But a new, and unexpected, factor came into play; this was a prodigious increase in the rate of growth of the population, resulting from a reduction in the number of deaths from infectious diseases. By the irony of fate the public-health organization, in controlling one group of preventable diseases, has created conditions in which the control of the other group has become increasingly difficult.

The Law of Growth of Population

Clearly the adequacy of a food supply depends not only on the amount that is available; the number of mouths to be fed must also be taken into account. Now this factor in its turn is bound up with the working of a law of Nature which is of basic importance in connexion with the prevention of disease, and which, like the basic law of health, has been discovered by the simple and reliable method of observing what happens among different groups of human beings all over the world. It may be called "The Law of Growth of Population," and it can be stated in these words:

> "When a community of human beings is completely protected from premature death caused by preventable diseases and violence, its numbers increase so rapidly that they become doubled and redoubled every 25 to 30 years unless some check is imposed on the natural rate of reproduction."

The conditions in which this maximum rate of increase occurs are very rarely complied with in every respect; no country has yet completely abolished all the preventable diseases, and those countries in which this goal has nearly been reached have almost invariably imposed checks on the birth rate by such methods as celibacy, delayed marriage, and the use of contraceptives, so that we cannot expect to find large-scale examples of the rate of increase just stated. But if we look at the communities in which no checks are imposed on the natural birth rate and in which good standards of nutrition prevail, it will be found that this rate of increase is more and more closely approached according to the degree to which deaths from infectious diseases are prevented.

A striking example of increase of population was given by Sir Evelyn Wrench in the *Times* of March 1, 1938. This writer stated that the 60,000 Frenchmen who settled in Canada in 1859 had nearly 5,000,000 descendants alive in 1938. Making allowance for preventable deaths from infection and the checks imposed by celibacy and delayed marriage it seems certain that the capacity for multiplication must have been at least as great as that stated in the law.

Some experts have raised objections to the validity of this law and have argued that when a good standard of health and comfort has been achieved the birth rate automatically declines. But their arguments are based on what happens in countries where the number of births are restricted in the ways already mentioned. It is now generally recognized that in these countries the striking fall in the birth rate has been due to various controls deliberately applied with the object of achieving the desired standard of living. There is no evidence to support the inherently improbable theory of a sudden decline in the capacity for reproduction. In communities where contraception is practised there is no means of finding the extent to which this is responsible for, causing a reduction in the number of births; but in countries like Eire, where the population is controlled by celibacy and delayed marriage, we can see how drastically these measures have to be applied to prevent an undue rate of increase.

Anyhow, we are concerned with India, where none of the methods of birth control is practised to an appreciable degree, and here we find that the birth rate is highest in those parts of the country where food is most abundant. It would therefore be the height of folly to rely on a comforting theory based on no reliable evidence and flatly contradicted by experience in India and all other crowded countries in which the natural birth rate is unrestricted.

Now let us see the implications connected with the law of growth of population, even if the very conservative period of 30 years is adopted as the time needed for doubling to occur. In India, for example, suppose that complete success had been obtained in the prevention of infectious diseases, and suppose that adequate nourishment were provided for the existing population by increasing the available supply of food by 50%. What then would have to be done to maintain these satisfactory conditions of life if the people refused to make any change in their matrimonial customs? A further progressive increase in the food supply would be needed so as to bring this up to three times the present amount by the end of 30 years, to six times the present amount within 60 years, to 12 times that amount in 90 years, and so on.

These figures, of course, are fantastic, but they do not reduce the law of growth of population to absurdity; what they do show is the utter impossibility of achieving and maintaining good conditions of health without imposing a check on the birth rate.

The people must choose for themselves whether to adhere to the present system of unrestricted propagation of children with its attendant misery or voluntarily to apply an adequate check. If the latter alternative is chosen they must select the kind of check that they prefer; no Government can dictate in a matter of this kind, but equally no Government can be held responsible for failing to provide health and well-being to people who refuse to conform to the natural laws which must be obeyed if these blessings are to be secured.

Up to now I have been dealing with the general principles of health, with special reference to highly populated countries like India, and I hope I have made it clear that these principles are both simple and obvious. It must also be understood that they apply to all human beings, for all time, and in every part of the world. They ought to form the basis of all public-health efforts.

Let us look at some examples of the manner in which these principles or laws have been operating in India in recent times.

Growth of Population in India

Since the first census was made in 1872 the population of India has been increasing; for 50 years the rate of increase was irregular, but on the average it was about 4% every ten years. Since 1921 there has been a remarkable rise; during the ten years 1921–31 the increase was by 10%, in Travancore there was a startling rise by 27%; in the ten-year period 1931–41 the increase for the whole of India was by 15%, or an actual increase of about 50,000,000. In this period the most striking increases occurred in North-Western India, Bengal, and Travancore, where they ranged from 19% to over 22%. When allowance is made for the large number of deaths from infectious diseases it is clear that in these widely separated areas the population could easily have become doubled within 30 years, provided that enough food could have been obtained and that infectious diseases could have been fully controlled.

Optimistic Views

These figures, especially the addition of 80,000,000 to the total population within 20 years, were obviously portentous, but there were differences of opinion as to what they actually did portend. On the one hand the considerable decline in the number of deaths from infectious diseases, coupled with the freedom of the country from any widespread famine, was regarded by optimists as evidence of a healthy state of affairs. For example, in 1940 a very distinguished expert claimed that

it was possible to look with considerable satisfaction on recent progress and future prospects of public health in India; he said there was good reason to expect that improvement in the standards of life would cause a decline in the birth rate.

In the recently published report for 1942 of the Public Health Commissioner it was stated that the death rate, 21.3 per mille, was the lowest ever recorded; and that the birth rate had also fallen to 29.2 per mille—a decline of special interest in view of the discussion on "what was regarded as the increasing population pressure and the alleged failure of food supplies to keep pace with it."

In the book *Social Service in India* (1938) the following statement is made: "The sting of famine has been drawn; indeed, the Famine Codes published in the early years of this century are mostly obsolete and lie undusted on the office shelves."

The Bengal Famine

It appears that even in well-informed circles there were some who could take a complacent view of the situation up to quite recent times. On the other hand there were ominous signs, as will presently be seen, but these attracted so little attention that the distressing famine in Bengal in 1943–4 caused a gasp of astonishment as well as of horror in India and in this country. The causes of the famine have been fully and ably dealt with in the report of the Commission which made a thorough investigation under the chairmanship of Sir John Woodhead. This deals chiefly with the causes that actually precipitated the famine, but to my mind the most important part of the report consists of a few sentences which describe "the background against which the events leading to the widespread starvation in 1943 must be viewed." Here are some of the most significant findings.

The Commission obtained evidence showing that about one-half of the 7,500,000 families depending mainly or solely on agriculture for their livelihood held less than two acres of land or owned no land at all, whereas the smallest area needed to maintain an average family in reasonable comfort was estimated as being at least five acres. In their search for evidence to show the previous state of nutrition of the people of Bengal the Commissioners had to fall back on a survey, made by myself, of the health conditions in the villages of India in 1933. This survey was carried out by sending a list of questions to a large number of doctors working in typical agricultural villages; the doctors were asked to confine their replies to facts and opinions based on their own observations. An analysis of the replies received from 69 doctors working in different parts of Bengal showed that 22% of the people were regarded as "well nourished," 47% as "poorly nourished," and 31% as "very badly nourished."

The Commission accepted these figures as "indicating in a general way the unsatisfactory state of nutrition of the people of Bengal ten years before the famine," though they also remarked that the findings could not be accepted as showing conclusively that nutritional conditions in Bengal were worse than those of India as a whole. In my own comments on the survey the same opinion had been expressed, and I had also pointed out that while the findings were regarded as conveying a substantially true impression of conditions of rural life in British India, one of the chief objects of the survey was to show the need for a thorough investigation into the state of health of the agricultural population. It is indeed surprising that the Commissioners should have been compelled to rely on this rough-and-ready inquiry of the "Gallup poll" type as the only available evidence on so momentous a question.

The Commissioners went on to state that poverty and malnutrition in Bengal left a section of the population with few reserves, material or physical, to meet superimposed calamity; that there was no margin of safety; and that though such conditions were common to most other provinces of India they were of fundamental importance and were favourable to the occurrence of famine. Among the general conclusions it was stated that agricultural production was not keeping pace with the growth of population, and that a considerable section of the people were living on the margin of subsistence.

The significance of these statements is greatly enhanced by the fact that they carry the authority of a man who weighs his words with a deep sense of responsibility. It becomes clear that, although the factors responsible for precipitating the famine were largely unpredictable, there were also basic factors which, if allowed to operate without interruption, would have made famine inevitable sooner or later. It is also clear that these basic factors could have been observed, and that from an examination of the trend of events a forecast could have been made showing that any exceptional shortage of the harvests due to failure of the rains would precipitate a crisis.

A remarkable feature of the famine was that the actual shortage of food in 1943 was estimated as being only about 6% of the normal supply. Special attention should be paid to the ominous words already quoted that the fundamentally important basic conditions were common to most other provinces of India.

The most important lesson to be learned from the famine is the need for an organization charged with the duty of providing reliable information with regard to the nutritional condition of the people, and of preparing regular forecasts, based on the observed trends of population and food production, to show what is likely to happen not only in seasons of normal harvest but also in the event of widespread failure of the crops.

A curious sidelight on conditions in Bengal before the famine is contained in the Bengal Health Report for 1941, which was issued only a few weeks ago. It appears that in 1941 the death rate was 6.6% higher, and the birth rate 5.3% lower, than in 1940. This simultaneous deterioration in the death and birth rates is very unusual; it had happened in 1918, when it was accounted for by the influenza pandemic, and again in 1938. Without a careful examination of all the circumstances it would be rash to express a dogmatic opinion about the significance of the figures, but the recurrence in rapid succession in 1938 and 1941 of so exceptional a feature in the statistics suggests that the nutritional condition of the people of Bengal was approaching the critical point at which the reproductive capacity of the people begins sharply to decline.

The statistics for India as a whole show that a relatively high birth rate can be maintained in spite of low nutritional standards, so that any considerable fall in the birth rate that cannot be explained by the occurrence of severe epidemics may well be a danger signal showing that the community is coming perilously near the breaking point at which a further reduction in the food supply is likely to precipitate famine.

Distress in Travancore

Bengal was not the only part of India to suffer from distress in 1943. The Chief Minister of Travancore made a public statement in the month of October in that year to the effect that a distressing condition of under-nourishment and famine conditions had existed, unrelieved, in the State during the previous twelve months. Eyewitnesses have given detailed reports of widespread starvation, though not on so spectacular a scale as in Bengal.

The experience of Travancore is even more instructive in some respects than that of Bengal. The State is described in the latest edition of the *Encyclopaedia Britannica* (1929) as being "conspicuous for good administration and prosperity." This remarkable tribute is universally regarded as being well deserved: the people have attained an exceptionally high standard of literacy, they are orderly, intelligent, and industrious, and private philanthropic agencies are unusually active. Only a few years ago the very idea of danger of famine in the State would have been scouted.

Yet the Census Report of 1941 is quoted as stating that in the lowland agricultural areas the increasing density of population was reducing the people to "a level of sheer despondency" and that in these areas there were 1,833 to 2,407 persons on each square mile of land.

It has already been seen that the growth of population in the State has been phenomenal; in the three successive decades since 1911 the percentage increases were 16.8, 27.2, and 19.1. In actual figures the increase during the 20 years 1921–41 was from about 4,000,000 to 6,000,000, or about 50%.

The author of a report in which the famine is described expresses himself as being "staggered" at finding that, whereas in 1938–9 there were 200 births for every 100 deaths, in 1942–3 there were only 150 births for 100 deaths. I, myself, find these figures staggering, but not for the same reasons; the author seems to regard the occurrence of two births for every death as a standard that must be maintained, but he does not appear to have asked himself the question—How long can the people continue to find food if their numbers go on increasing at this rate? I find the numbers staggering for another reason; they show that even in conditions of distress the population has continued to swell at a relatively rapid rate. Nature obviously

does not begin to exercise effective control over the inordinate rate of growth of the population till the people have been reduced to an extreme condition of misery and weakness.

The same author's plans for restoring prosperity to the State are interesting. He recommends an increase in the area under grams and pulses, the development of mixed farming, the keeping of cattle, poultry, sheep, and pigs, and, "more than all, the purchasing power of the consumer must be increased." Remedies like these are often advocated by well-meaning persons who do not appreciate the unfortunate fact that a well-balanced nutritious diet cannot be produced on an area of ground that is only large enough to provide a meagre ration of such bulky foods as tapioca or rice. To suggest a system of mixed farming for a family that has to maintain itself on a plot of less than two acres is absurd. In such conditions the people are compelled to grow the crop that gives the largest yield as the only way of staving off hunger. When animals are kept they must be fed either on the produce of the land or on food bought in the market in exchange for the money obtained by the sale of a cash crop. In either case, the milk, meat, or eggs provided by the animals would not go far to satisfy the hunger of the family. On miserably small holdings all that can be hoped for is to keep the family alive at a wretchedly low standard of nutrition.

The Government of Travancore is making an effort to increase production by the use of fertilizers, and this step is likely to ease the situation to some extent, but if the people are thereby enabled to produce two babies in exchange for every person who dies the outlook for the future is far from bright.

The experience of Travancore is fundamentally similar to that of Bengal, but there is one special lesson to be learned from Travancore; this is that a high standard of literacy, even when combined with the advantages of a humanitarian administration and private philanthropy, cannot avert the inevitable consequences of disobeying the laws of Nature.

Criticisms Forestalled

Critics will doubtless discover a weak point in arguments based on the experience of Bengal and Travancore; in both of these areas famine conditions were precipitated by the sudden cessation of rice imports from Burma. But there is reliable evidence to show that not only in these areas but also in most parts of India the food situation had already deteriorated to such a degree that any considerable reduction in the food supply, from whatever cause, must have driven the people over the line that separates scarcity from famine. The Bengal Famine Commission report makes it clear that what may be called "pre-famine" conditions exist throughout the greater part of India.

You may suspect that this is an exaggerated statement; surely if the situation had been so serious it would have caused alarm and have given rise to a searching inquiry. It may seem incredible that so little attention was paid to the repeated warnings of danger, but there are several factors which help to explain the attitude of fatalistic indifference that prevailed. There is the traditional belief in "the Unchanging East," so that the very possibility of the revolutionary change that was taking place was contrary to all preconceived ideas. There was also the lack of reliable information which would have shown the extent of the change. Perhaps most important of all is the fatal tendency of human beings to refuse to meet trouble half-way. India is not the only country in which the Governments and leaders of public opinion have been apathetic in the presence of impending calamity. Let me quote a dramatic example of a similar state of affairs. In the course of a speech delivered in 1936 Mr. Churchill used these words: "I have been staggered by the failure of the House of Commons to react effectively against these dangers," and "I say that unless the House resolves to find out the truth for itself it will have committed an act of abdication of duty without parallel." Most of the other countries of the world showed a similar failure to react to danger in the pre-war days, so that there is no force in the argument that things cannot be so bad otherwise there would be signs of alarm. It must be concluded that human beings in general suffer from a defect, a kind of blind spot, in their psychological vision, which prevents them from seeing the signs of approaching disaster.

I do not propose to engage in the fruitless task of trying to fix the blame for past neglect. When things go wrong it is usual to look for a scapegoat or to blame the Government, but in the present case there would be great difficulty in finding judges and a jury who are themselves free from a share in the responsibility. The situation in India is like that of Great Britain on the eve of the last war, and the one thing needed is for all to sink their differences and unite in determined action to contend against the common danger.

What Can Be Done?

You will ask—What can be done? If the question were—What could be done? it would be easy to give a reply. It would be—Set about securing the immediate observance of the basic laws of health. I do not mean some of the laws, because already strenuous efforts are being made to comply with the part of the health code dealing with the prevention of infection and the increased production of food. But there is only too much evidence that when everything possible has been done in these directions there will still be a great gap between the amount of food that will be available and the number of mouths to be fed. As soon as more food has been provided and infectious diseases have been satisfactorily controlled there will be a further up-surge in the rate of increase in the population, and the problem will be as far from solution as ever; the only difference will be that it will have become greater and more difficult to solve.

It is true that ambitious plans have been proposed for such an increase in the production of food that there might be no need for some years to come to tackle the thorny question of controlling the birth rate. The weakness of these plans is that their success is conditional on the possibility of persuading the people to make drastic changes in their outlook on life and manner of living. Such changes as will be involved in the abolition of uneconomic small-holdings and the elimination of millions of useless cattle will certainly be resisted quite as fiercely as the changes needed to control the number of births.

In any case it seems certain that a satisfactory balance between population and food supply cannot be reached without making very strenuous efforts not only to increase the food supply but also to restrict the growth of population.

Root Cause of the Trouble

The crux of the whole problem is how to bring about the necessary change in the outlook on life of the people; I still think that the best way of dealing with this essential aspect of the situation would be by the appointment of a Commission of the kind asked for more than 20 years ago by the medical research workers of India. These workers at four successive annual conferences, held in 1923–6, unanimously adopted resolutions, proposed by myself and seconded by the late Major-General Hutchinson, Public Health Commissioner with the Government of India, in which an appeal was made to Government for the appointment of a Commission, chiefly non-technical, for the purpose of making a thorough inquiry into the wastage of life and economic depression which were regarded as being due to causes that were capable of being removed. The reply of Government was that the proposed Royal Commission on Agriculture would be the most suitable body for making inquiries into the evils referred to in the resolution.

When the report of this Commission appeared it was found to contain one pertinent reference to the root cause of the trouble. It was pointed out that "an increase in the yield of crops would merely postpone the effects of the growing pressure of population on the soil," and that "no substantial improvement in agriculture could be effected unless the cultivator had the will to achieve a better standard of living." It was also stated that "the responsibility for initiating the steps needed to effect this improvement rested with Government."

These significant words completely justified the appeal by the research workers for an investigation into the non-technical aspects of the problem; it was clear that the social and psychological aspects of the question could not be properly investigated by agricultural experts, but only by persons familiar with the mentality and conditions of life of the villagers themselves.

The policy of Government has always been directed towards effecting improvements that could be carried out by adminis-

trative action, and too little attention has been paid to the principle that what is done by the people themselves always confers greater and more lasting benefits than anything that is done for them by outside agencies. When each family learns how to plan its life on right lines the improvement effected in this way will be multiplied by many millions and the total results will be enormous.

Repeated appeals have been made for an investigation on these lines, but unfortunately they were not backed up by the weight of public opinion needed to convince Government that there was a real demand for such an inquiry. In the absence of any widely expressed desire for a Commission the Government may well have feared that if they had taken the initiative their action would have been regarded as an attempt to distract attention from embarrassing political issues. Whether for this or other reasons, no convenient time could ever be found for a study of the subject from the broader point of view.

Now that the shock caused by the Bengal famine has created a sense of danger the atmosphere is more favourable for a searching inquiry. The persons best fitted for carrying out the inquiry are enlightened Indians; but especially Indian women, because the women are the chief victims of the existing system, and because they have shown themselves far more ready than men to sink political and communal differences in their efforts to secure better conditions of life.

The objects of the inquiry would be to make an unbiased report on the social and other customs which play so important a part in causing ill-health and economic depression in the villages, and to recommend suitable action for bringing about the needed changes in these customs. The Commission would have to keep clear of all subjects connected with the special interests of political parties or communities. Disease is no respecter of races, creeds, or political parties.

Need for a New Outlook

The simplicity of the problem in principle and the obvious nature of the solution are in very sharp contrast with the extreme difficulty of applying the solution; but if the gravity of the situation were fully realized the people would be eager to unite in saving the country from disaster. One of the chief services that would be rendered by the Commission would be to create the sense of danger needed to convince the people of the need for a change in their plan of life.

What has to be done is clear—it is nothing less than to create a new outlook on life, which must be in accordance with the principles already stated. You will not expect me to anticipate the findings of the proposed Commission with regard to the method by which this outlook can be created. The working out of the method will indeed be a difficult task, though if the will to succeed is strong enough the modern resources of wireless broadcasting can enable the teachers of the life-saving knowledge to convey their instruction to every remote corner of India. Receiving sets can easily be installed in every village in India at a cost which would be negligible in comparison with the benefits resulting from education by word of mouth and the introduction of much-needed entertainment to the drab lives of the people.

I have not presented a plan; but only a plan to prepare a plan. The plan itself can be prepared only by educated Indians, on whom must rest the responsibility for saving their countrymen, and themselves, from a terrible disaster.

The reports for 1945 of medical officers of health should be prepared on the same lines as the report for 1944. Among subjects of current interest which should be included are tuberculosis (including the allowances scheme), venereal disease (including tracing of contacts and follow-up of defaulters), care of premature infants and of illegitimate children, and the steps taken to combat infestation. Arrangements should continue to be made for careful preservation of all records, including the statistics to be supplied by the Registrar-General. As regards water, the report should state: (i) whether the water supply has been satisfactory in quality and quantity; (ii) the number of bacteriological examinations and the results obtained, also the results of any chemical analyses; (iii) the facts about contamination of any kind and the action taken; (iv) the number of houses and the population supplied from public water mains (*a*) direct to the houses and (*b*) by stand-pipes.

CAUSES OF DELAYED MENSTRUATION AND ITS TREATMENT

AN INVESTIGATION IN THE WOMEN'S AUXILIARY AIR FORCE

BY

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The prevalence of amenorrhoea in members of the Women's Auxiliary Air Force on entry to the Service, without any obvious pathology in the uterus, adnexa, or any of the other body systems, prompted me to investigate this interesting syndrome.

The comparative absence of any important work on the subject of delayed menstruation in the English language up till about 1939 is to be wondered at. Schweitzer (1917) records that 4% of 2,016 gynaecological patients consulted between 1916 and 1917 suffered from Kriegsamenorrhöe, as the condition was then called. Comparable figures were offered by Graefe (1917), Grünebaum (1917), and Hannes (1917). Reviewing the situation in 1928, Teebken stated that 0.19% of the patients examined in 1914 suffered from Kreigsamenorrhöe, and this figure rose to 5.11% in 1917. The duration of the amenorrhoea was 2 to 24 months, and he believes that (1) a deficiency of first-class protein, (2) psychical disturbance, and (3) increased work are the most important aetiological factors.

With the above facts in mind, it was realized that a unique opportunity presented itself to pursue further the study of this condition in members of the Women's Auxiliary Air Force, in whom its occurrence was by no means infrequent. An attempt was therefore made to investigate (1) the incidence of delayed menstruation in airwomen, (2) the relationship of delayed menstruation to occupation, (3) the relationship, if any, to the protein content of the diet, and (4) a form of therapy. It was also hoped that endometrial biopsies would be performed, but this was not possible owing to factors beyond my control.

Incidence of Delayed Menstruation in Airwomen

The incidence of amenorrhoea in airwomen was investigated in nine Royal Air Force stations; the total number involved was 2,312. The girls were questioned during what is known as an F.F.I. examination (i.e., free from infection), which is done as a routine with frequent regularity in an airwoman's career to exclude the presence of the ordinary skin infections. They were specifically interrogated with regard to *(a)* regularity or otherwise of the menstrual cycle, *(b)* history of amenorrhoea on entry to the Service, *(c)* dysmenorrhoea, *(d)* menorrhagia. Table I gives a summary of the results obtained.

TABLE I.—*Incidence of Menstrual Anomalies in 2,312 Airwomen*

Year	Normal and Regular	Amenorrhoea on Entry to Service	Dysmenorrhoea	Menorrhagia	Completely Irregular	Total
1939	5	—	—	—	—	5
1940	186 (84·5%)	6 (2·7%)	11 (5%)	2 (0·9%)	15 (6·8%)	220
1941	689 (83%)	52 (6·2%)	31 (3·7%)	14 (1·6%)	44 (5·3%)	830
1942	753 (82·3%)	59 (6·4%)	33 (3·6%)	18 (1·9%)	52 (5·6%)	915
1943	285 (83·3%)	22 (6·4%)	13 (3·8%)	1 (0·29%)	21 (6·1%)	342

From the figures, therefore, it will be seen that delayed menstruation constituted one of the greatest menstrual abnormalities in the 1941–3 period, and invariably dated from the time of entry to the Service.

Relation between Delayed Menstruation and Occupation

The total number of cases of amenorrhoea in the present series was 139. Of these, 52 (37.41%) were clerks, 20 (14.4%) were cooks, 16 (11.5%) were drivers, while 9 (6.4%) were employed on general unskilled duties. Telephone operators numbered 9 (6.4%), 8 (5.7%) were equipment assistants, and 7 (5.03%) were batwomen. Flight mechanics numbered 4 (2.9%), and 3 (2.1%) were waitresses. Only 2 (1.44%) occurred in each of the following trades: administrative staff, safety equipment workers, wireless operators, tailoresses, and instrument repairers. Finally 1 (0.72%) was a sparking-plug tester. The greatest number of cases of amenorrhoea therefore occur in those with sedentary occupations.

Length of Menstrual Delay.—The length of the menstrual delay (to the nearest month) in 139 cases of amenorrhoea was calculated from the time of the *first missed period* (Table II).

TABLE II.—*Menstrual Delay in 139 Cases of Amenorrhoea*

Menstrual Delay in Months	No. of Cases	%
1	9	6·47
2	29	20·86
3	62	44·64
4	16	11·51
5	5	3·59
6	15	10·79
7	3	2·15

It will be noted that 62 (44.64%) had a delay of three months, while only 3 (2.15%) had a delay of seven months.

Relation between Delayed Menstruation and the Protein Content of the Diet

Teebken's contention that a deficiency of protein is one of the most important factors in the production of delayed menstruation could not be allowed to go unconfirmed. As a result, the diets of the Royal Air Force stations in question were investigated. One specimen menu drawn at random will be quoted in some detail to illustrate the method of calculation of the various quantities of protein, carbohydrate, and fat in the diet (see Table III). Many other menus were similarly investigated, but the results of only some of these will be recorded (see Table IV).

TABLE III.—*Specimen Menu*

Menu	Weight (oz.)	Calories per oz.	Carbohydrate* (g.)	Protein (g.)	Fat (g)	Total Calories
Breakfast:						
Porridge (dry) ..	1	116	20·6	3·8	2·5	116
Bacon (fried, streaky)	1⅔	149	0·0	8·7	16·84	191·57
Bread (national) ..	8	64	102·4	22·4	4·0	512
Butter	½	226	Tr.	0·05	12·1	113
Milk, tea, etc. ..	4	19	5·6	3·6	4·4	76
			128·6	38·55	39·84	1,008·57
Dinner:						
Beef stew	6	31	4·2	18·6	10·2	186
Potatoes (old, boiled) ..	8	23	44·8	3·2	Tr.	184
Brussels sprouts (boiled)	8	5	4·0	5·6	Tr.	40
Peas	1	28	5·4	2·0	Tr.	28
Apple (stewed) ..	4	5	4·8	Tr.	Tr.	20
			63·2	29·4	10·2	458
Tea:						
Sausage (fried) ..	4	81	18·0	15·6	20·8	324
Biscuits, tea, etc. ..	2	124	41·4	6·8	7·0	248
			59·4	22·4	27·8	572
Supper:						
Macaroni	4	101	87·2	13·2	2·4	404
Cheese (Cheddar) ..	⅛	120	Tr.	6·08	8·4	102·8
			87·2	19·28	10·8	506·8
Additional to menu:						
Jam	1½	74	22·5	0·11	0·0	84·57
Sugar	2	112	59·4	Tr.	0·0	224
Cooking fat	½	262	0·0	Tr.	14·05	131
Margarine	1	226	0·0	0·1	24·2	226
Condensed whole unsweetened milk	3	44	10·5	6·6	7·2	132
Flour	1½	101	25·25	5·12	1·12	126·2
Dried whole milk ..	⅛	150	3·14	2·1	2·4	72·85
Dried whole egg ..	⅛	164·7	Tr.	5·35	5·23	70·57
			120·8	19·38	54·2	1,037·19
Total:						
Breakfast			128·6	38·55	39·84	1,008·5
Dinner			63·2	29·4	10·2	458·0
Tea			59·4	22·4	27·8	572·0
Supper			87·2	19·28	10·8	506·8
Additional to menu ..			120·8	19·38	54·2	1,037·2
Total			459·2	129·01	142·84	3,582·5

* The carbohydrate is expressed as monosaccharides.

NOTE.—To convert individual nutrients into terms of calories the figures 3·75, 4·1 and 9·3 are used for carbohydrate, protein, and fat respectively. (McCance and Widdowson, *The Chemical Composition of Foods*, 1942.)

A glance at Tables III and IV will indicate that in no case does the weight of the protein ration fall below 100 g. daily, and in most cases it is much more. Allowing 1 g. protein per kg. of body weight as adequate, it will be seen that the quantity of protein in the diet is sufficient for an airwoman of average

TABLE IV.—*Carbohydrate, Protein, and Fat Content, and Calorie Values of 5 Daily Menus*

Diet	Carbohydrate (g.)	Protein (g.)	Fat (g.)	Total Calories
1	388·5	166·0	168·3	3,705
2	373·0	162·4	159·0	3,545
3	410·0	151·0	160·0	3,645
4	430·0	136·0	145·5	3,523
5	377·5	159·0	162·0	3,575

weight. That a deficiency of protein is an essential factor in the production of delayed menstruation can therefore have little foundation on fact. No conclusion can be reached as to the vitamin and salt content of the diet. We can, however, assume that if the menu is well composed and contains the allotted quantities of milk, butter, eggs, and fruit, the vitamin and salt content will suffice for normal requirements.

A Form of Therapy

The adoption of a rational basis for therapeutics depends on the accurate differentiation of the various types of amenorrhoea. A thorough clinical examination to eliminate all organic and obviously endocrine causes is essential if any success in therapy is to be expected. Prostigmin methyl sulphate has been found to be effective in the treatment of delayed menstruation by Soskin, Wachtel, and Hechter (1940), Wilkenstein, Settel (1942), and Sneider (1943) in America, and by Friedmann (1944) in this country. The usual dose is 1 to 2 ml. of a 1/2000 solution injected intramuscularly on three successive mornings.

The apparent success of the above authors induced me to treat a number of airwomen suffering from menstrual delay with a parasympatheticomimetic drug. For this purpose carbaminocholine chloride (carbachol *B.P.*) was chosen in the form of the proprietary preparation moryl (oral),* each tablet containing 0.002 g. of active carbaminocholine. Carbaminocholine chloride is a powerful parasympatheticomimetic. Its activity is greater than that of acetylcholine, its action is more prolonged, and its effects can be inhibited by atropine sulphate.

Nine cases suitable for treatment were chosen, and the Zondek-Aschheim test was performed in each instance to eliminate the possibility of early pregnancy. Realizing that the patients might menstruate as the result of the psychological effect of administering any drug, five of the cases were given the carbaminocholine while the other four had a placebo containing starch, lactose, and saccharin. Neither group knew whether they were receiving the placebo or the active drug.

The first five cases were treated with ½–1 tablet of moryl (0.001–0.002 g. carbachol) t.d.s., while the other four were treated with 1 tablet placebo t.d.s. When the latter did not menstruate after 3 to 4 days' treatment the placebo was replaced by the active drug. The ages of the patients were between 19 and 30 years and the menstrual delay was from 6 days to 19 months. In seven of the nine cases the menstrual period was precipitated in 17 to 96 hours after the onset of treatment; one patient menstruated in 35 days; while the other bled after treatment with placebo only. The dosage of moryl required was 3 to 15 tablets—0.006–0.030 g. carbaminocholine chloride.

The histories of the cases are summarized in Table V. Two facts in the table require further comment. (1) In Case 6 menstruation occurred in 35 days. It is not suggested that the drug was responsible for the bleeding. Further, the succeeding period was absent. I believe that this may have been a mild example of the adiposo-genital syndrome as evidenced by excessive weight and hypoplasia of the genitals. (2) In Case 7 menstruation occurred after administration of three tablets of placebo only. There are two possible explanations: *(a)* the onset of the menstrual period was merely coincidental with the treatment; *(b)* the patient was a rather depressed individual, and the interview was partly in the nature of a psychiatric examination, which may have facilitated her adjustment to her environment and so helped to precipitate the period.

It is apparent that a larger series of cases would have to be treated before any definite conclusions could be reached. How-

* This drug was kindly supplied by Savory and Moore, Ltd., Lawrence Road, London, N.15, who also supplied the placebos in generous quantities.

TABLE V.—*Effects of Carbaminocholine Chloride and Placebos in 9 Patients*

Case	Age	Menstrual Delay	Treatment	Total Dose Carbamino-choline	Results	Time from Onset of Treatment to Precipitation of Period	Abnormal Symptoms	Succeeding Period
1	21	5 months	½ tab. moryl t.d.s.	0·012 g.	Menstruated. Bled 5 days	96 hrs.	Epistaxis	Normal
2	30	6 days	1 ,, ,,	0·006 g.	,, ,, 4 ,,	17 hrs.	Nil	,,
3	25	4 months	,, ,, ,,	0·012 g.	,, ,, 6 ,,	48 hrs.	,,	,,
4	19	26 days	,, ,, ,,	0·016 g.	,, ,, 3 ,,	60 hrs.	Headaches	,,
5	24	3½ months	,, ,, ,,	0·008 g.	,, ,, 4 ,,	18 hrs.	Nil	,,
6	21	19 ,,	1 tab. placebo t.d.s.; 1 tab. moryl t.d.s.	12 tabs. placebo 0·03 g.	Nil	—	,,	—
7	30	31 days	1 tab. placebo t.d.s.	3 tabs. placebo	Menstruated. Bled 10 days	35 days	,,	Absent
8	19	7 months	1 tab. placebo t.d.s.; 1 tab. moryl t.d.s.	12 tabs. placebo 0·016 g.	,, ,, 5 ,,	24 hrs.	,,	Normal
9	23	2½ ,,	1 tab. placebo t.d.s.; 1 tab. moryl t.d.s.	12 tabs. placebo 0·018 g.	Nil	—	,,	—
					Menstruated. Bled 5 days	60 hrs.	,,	Normal
					Nil	—	,,	,,
					Menstruated. Bled 4 days	72 hrs.	Flushings	,,

ever, it would appear that carbaminocholine chloride was successful in precipitating bleeding in seven of the nine cases treated, and it is therefore felt that the drug merits more intensive clinical trials in all cases of amenorrhoea in the absence of organic disease.

Conclusions

To provide a satisfactory explanation for the cessation of the bleeding phase of the menstrual cycle in a healthy young woman, resulting from a sudden change in environment, is admittedly difficult. However, enough experimental data exist to allow me to postulate (with some trepidation) an interesting hypothesis, which, if not yet valid, is at least in accord with fact. The following experimental evidence is at our disposal:

(1) The hypothalamus probably governs our emotional response to external environment, that response being expressed through the hypothalamic-sympathetic and parasympathetic nervous system connexions (Masserman, 1941; Tucker, 1941).

(2) Hypothalamic stimulation produces autonomic discharge, the final effect being dependent on the preponderance of the sympathetic or parasympathetic nerve fibres (Gellhorn, 1941).

(3) The injection of oestrone in ovariectomized animals causes a hyperaemia of the uterus and an increase in its acetylcholine content. Bleeding may depend on the presence of the latter (Reynolds, 1939).

(4) Luteinizing hormone is released from the anterior hypophysis by an acetylcholine-like substance, liberated by the hypothalamus (Taubenhaus and Soskin, 1941).

Armed with these facts, we can now see that environmental stress or psychic trauma, no matter what its origin, will activate the hypothalamus to produce adrenaline and acetylcholine. Should the sympathetic fibres predominate, however, then a relative deficiency of acetylcholine will be present and thus bleeding will be suppressed, owing to either: *(a)* a local deficiency of acetylcholine in the uterus, or *(b)* absence of luteal hormone and consequently of corpora lutea.

One other phenomenon requiring further elucidation is the reason for the development of amenorrhoea in some and not in others when exposed to the same environment. It is a truism to say that individuals differ in their reactions to the same environment. This ultimately is an expression of character, and probably depends on the degree of representation of the sympathetic and parasympathetic nervous systems in the cortex. If those two systems are represented more or less equally in the cortex, then the adrenaline/acetylcholine balance in the blood will not be disturbed on exposure to environmental change, and the menstrual cycle will remain unaffected.

This conception may also be invoked to explain the cessation of the bleeding phase of the menstrual cycle in a host of other states—e.g., in probationer nurses, on going away for a holiday, and in those who fear the onset of pregnancy, etc. The common precipitating factor in all is a complete change of environment, recreation, and work, or a period of mental and emotional stress leading to overactivity of the sympathetic nervous system.

The belief that the pituitary gland is "the leader of the endocrine orchestra" is perhaps not now entirely true, and it may, in fact, play "second fiddle" to the hypothalamus.

Summary

The incidence of delayed menstruation in 2,312 airwomen was calculated.

It was found that sedentary workers were mainly affected.

The theory that protein deficiency is responsible for the amenorrhoea is disproved.

Seven of the eight cases of delayed menstruation treated with carbachol *B.P.* menstruated, while one bled with a placebo only.

The possible mechanism of production of delayed menstruation is discussed.

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REFERENCES

Friedmann, E. (1944). *British Medical Journal* **1**, 11.
Gellhorn, E. (1941). *Amer. J. Psychiat.*, **97**, 944.
Graefe, M. (1917). *Münch. med. Wschr.*, **64**, 579.
Grünebaum, M. (1917). *Dtsch. med. Wschr.*, **43**, 1266.
Hannes, W. (1917). Ibid., **43**, 1000.
Masserman, J. H. (1941). *Psychosomat. Med.*, **3**, 3.
Reynolds, S. R. M. (1939). *J. Physiol.*, **95**, 258.
Schweitzer, B. (1917). *Münch. med. Wschr.*, **64**, 551.
Settel, E. (1942). *Med. Rec.*, **155**, 331.
Sneider, M. J. (1943). *Illinois med. J.*, **83**, 107.
Soskin, S., Wachtel, H., and Hechter, O. (1940). *J. Amer. med. Ass.*, **114**, 2090.
Taubenhaus, M., and Soskin, S. (1941). *Endocrinology*, **29**, 958.
Teebken, G. (1928). *Zbl. Gynäk.*, **52**, 2966.
Tucker, B. R. (1941). *Sth. med. J.*, Nashville, **34**, 724.

PENICILLIN SPRAYS AND UPPER RESPIRATORY TRACT INFECTION

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A natural result of the increasing availability of penicillin will be its use by the public in nose and throat sprays, often on medical advice, but sometimes without it. Already there seems to be a growing belief, based mainly on random clinical results, that such sprays are useful in cases of respiratory tract infection. Some direct evidence on this point may be appropriate.

At the beginning of 1942 we started nose, throat, and skin cultures *regularly* taken from all patients and staff in the maternity department, with a view to minimizing the entry of streptococcal and staphylococcal infections and excluding carriers. Having first observed the course of bacteriological events for about a year, we put into operation a preventive routine, continuous cultural control being kept up as before. The resulting reduction in the incidence of ward sepsis we recorded in 1944. This improvement has been maintained ever since, but always at the expense of a certain number of tiresome exclusions, particularly among nurses in training and among students. Early in 1944, in the hope of getting infected individuals back to duty more quickly, frequent regular nose and throat spraying with penicillin was started. The routine adopted was to spray both sides of the nose and throat by means of an all-glass "crystal" atomizer (Rogers) for about one minute at three- to four-hourly intervals. The solution used contained penicillin (usually calcium), 1,000 units per ml. Test cultures for freedom from infection were made in the morning before the spray had been used. If a negative result was obtained spraying was stopped for two or three days and swabbing repeated to make sure. Therefore, as regards the persistence of infection following

acute catarrhs and during carrier states, we can compare directly the first set of records, covering two years when no systematic treatment was attempted, with the second set, which illustrates the effect of penicillin-spraying, well maintained under the eye of authority, over exactly the same period.

Infection with Staphylococcus aureus

Staphylococcal infections will be considered first because in numbers they predominate. In our previous note on routine detection and exclusion of staphylococcus carriers it was pointed out that only those strains which are actively coagulase-positive, produce alpha-haemolysin, and rapidly ferment mannite constitute a significant menace in the wards. We termed them for convenience Grades A and B, as compared with Grades C and D, found to be practically harmless. Our present figures refer in the main to the invasive A and B strains alone.

It is important also to remember the natural tendencies of staphylococcal nasal infections among hospital populations. Much work on the subject has been done by Miles *et al.* (1944) and Williams *et al.* (1944). They find that there is a marked tendency for persons to be either persistent carriers or persistently free from nasal *Staph. aureus*, and our records agree with theirs. Throughout our routine observations, whenever staphylococcal sepsis appeared in the department practically all those in direct contact with infected cases immediately gave positive cultures from hands, nose, and nasopharynx. After their immediate exclusion these nurses and students submitted to regular swabbing until free. The great majority cleared themselves quickly. But a number, most of whom we had already noted as liable to very persistent carrying, would continue to give positive cultures for many weeks or, in a few cases, months. Therefore in reviewing the results of any systematic local treatment it seems justifiable to consider the "transient" and "persistent" groups separately. In many ways the more transient infections parallel those seen as the "secondaries" following the common cold, whereas the infection of the persistent carrier is akin to, if not actually a true, chronic mucosal infection.

For this reason we have in Table I summarized the records of the transient carriers alone, the untreated above and those regularly using penicillin below. Each group is subdivided numerically according to the days elapsing between infection and permanent freedom.

TABLE I.—*Clearance Times of Transient Staph. aureus Carriers*

	Cases	Days before Freedom from Staph. aureus										
		2	3	4	6	8	10	12	14	16	18	20
No local treatment	50	0	2	5	8	11	10	8	4	2	0	0
Penicillin spray ..	48	3	13	12	9	4	3	1	2	1	0	0

The figures indicate a decided advantage to those using the penicillin spray. Taking the general average, the duration of these transient infections seems to have been reduced by rather more than one-half. It is probably fair to conclude that among the treated individuals the majority found their return to duty accelerated.

If the persistent carriers are recorded in the same way the result is similar. The clearance times of those using penicillin sprays tend to be the shorter.

TABLE II.—*Clearance Times of Persistent Staph. aureus Carriers*

	Cases	Weeks before Freedom from Staph. aureus														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	14 and over
No treatment	20	0	0	0	0	1	1	0	4	3	2	3	3	1	1	1
Penicillin spray	16	0	0	1	1	2	2	4	2	0	1	1	0	2	0	0

The difference is perhaps not so striking as that seen in Table I, but again there is evidence that the use of penicillin saved the department many lost working days.

Haemolytic Streptococcal Infections

During the four years 38 individuals among the nurses and students had to go off duty owing to tonsillitis or pharyngitis associated with Group A beta-haemolytic streptococcus infection. Some had no local treatment; others sprayed with sulphanilamide powder or penicillin solution. If the duration of local infection is tabulated as before the figures suggest that both forms of spraying have an advantage over no treatment at all.

TABLE III.—*Clearance Times after Str. haemolyticus Infection*

	Cases	Days before Freedom from Str. haemolyticus											
		3	4	5	6	8	10	12	14	16	18	20	22	24
No treatment ..	13	0	0	2	1	3	1	2	0	2	1	0	1	0
Sulphanilamide ..	13	2	2	3	2	1	0	2	0	1	0	0	0	0
Penicillin	12	1	3	4	2	0	1	0	1	0	0	0	0	0

It would seem that penicillin is at least as effective as local sulphanilamide, and can, moreover, claim to be unlikely to produce any toxic effects, however persistently used. For streptococcal throat infections the recently introduced penicillin lozenges should be more convenient and give equally good results.

Summary

Advantage has been taken of the opportunity provided by continuous bacteriological records of the workers in a maternity department covering four years to see what benefit resulted from repeated spraying with penicillin of all staphylococcal and streptococcal nose and throat infections. During the two years of routine spraying the persistence of micrococcus carrier infections has been reduced by about 50%. When infection has been detected in the ward, penicillin-spraying is therefore now used prophylactically also.

REFERENCES

Knott, F. A., and Blaikley, J. B. (1944). *J. Obstet. Gynaec. Brit. Emp.*, **51**, 386.
Miles, A. A., *et al.* (1944). *J. Path. Bact.*, **56**, 513.
Williams, R. E. O., *et al.* (1944). *Brit. J. Surg.*, **32**, 425.

DOSAGE OF EPHEDRINE IN BRONCHIAL ASTHMA AND EMPHYSEMA

BY

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Ephedrine hydrochloride has been known for a long time as an efficient drug in emphysema and bronchial asthma. Most authors, however, report that in a considerable percentage of cases the drug brings no relief to the patient. This is surprising, as ephedrine, like adrenaline, relieves bronchial spasm in the experimental animal with regularity. It was the purpose of these investigations to find the reason for the variation in the effect of ephedrine in the ephedrine-refractory cases.

It will be remembered that ephedrine, like adrenaline, has many different effects on the human body. Only one of them is the relief of bronchial spasm; others concern the blood pressure, the pulse rate, the width of the pupil, peristalsis, etc. The effect of the drug on the various organs is not always of the same intensity. Thus the circulatory effect or the effect on the nervous system may be so much stronger than the effect on the bronchial spasm that the relief of the latter could be achieved only by a dose so large as to embarrass circulation, which would therefore not be tolerated. Such patients obviously cannot be improved by ephedrine, as the maximum dosage tolerable for their circulation is below the threshold of their bronchial musculature. These subjects tend to have untoward reactions after the usual or even smaller amounts of oral ephedrine, whereas most of them react favourably to ephedrine inhalation. These patients cannot be called ephedrine-refractory, as they react well to the small doses given by inhalation.

There are, however, patients who show no untoward reactions at all, and whose asthma is not improved. The question arises whether the usual dosage is sufficient in these cases. It seemed necessary to use an objective method to follow the ephedrine effect on the bronchial spasm. That such spasm was present could be concluded from the occurrence of the typical wheeze, and the vital capacity was used to measure the effect of ephedrine. It was determined graphically by means of a Benedict-Roth spirometer connected with a drum as used for B.M.R. estimation. The respiratory curve was recorded and the vital capacity taken three times. A suitable dose of

ephedrine was then given and the recording repeated after one hour (former tentative experiments had shown that the maximum effect of ephedrine is usually not reached before 50 minutes and lasts till 2 or 3 hours later). If there was no change in the vital capacity and the wheeze, and if there were no signs of intolerance—tremor, sweating, nausea—another dose was added, and the recording repeated after another hour. If necessary, the whole procedure was repeated once again. As the additional doses of ephedrine follow in hourly intervals their action is superimposed, and the effect is similar to what would have been achieved by a single large dose equal to the two or three consecutive ones. In other cases the ephedrine effect was investigated by giving a tentative dose thrice daily and recording the effect on the vital capacity before and after 2 to 3 days.

Altogether 65 patients suffering from bronchial asthma or emphysema came under observation. In 14 of them the asthma was slight; these reacted to a few small doses of ephedrine and became free from attacks and wheezing for a long interval. They were usually young—most of them adolescents, some between 20 and 30—and their vital capacity was not reduced when they were not in an attack. These cases do not present any problem so far as ephedrine dosage is concerned, and we shall therefore not deal with them here.

Of the remaining 51 patients, 14 were typical severe asthmatics of the younger (extrinsic) type. The other 37 were cases of emphysema. Most of them were over 30 and many over 40. Some had had typical bronchial asthma for many years, but the majority showed a long history of cough or repeated bronchitis, originating 5 to 10 years ago, which was followed later by breathlessness on exertion. In many of these, asthmatic attacks had developed at a late stage of their history, and were apparently not the cause of the emphysema. These 51 patients had one characteristic in common—a nearly continuous wheeze. In most of them, also, a reduction of the vital capacity, radiological signs of emphysema, and an increased reserve air were present. All therefore may be classed as emphysema, although in some of them bronchial asthma could be traced as the principal cause.

In order to compare the ephedrine effect in these 65 chest patients with its effect in other subjects we have also investigated its action in 4 normal persons and 8 patients with heart disease. There is not much change in the vital capacity after the usual dose of 1/2–1 gr. (32–65 mg.). The differences are mostly less than 100 ml., and they lie in both directions. This negative result was to be expected, as Voegtli and Verzár (1945) have shown recently that the vital capacity in normal persons is not influenced by adrenaline. It should be emphasized that all four subjects experienced slight side-effects of ephedrine—tremor and palpitations. This shows that the dosage was near the limit of what was tolerable. The same result has been obtained in 8 patients with heart disease. These patients had been in congestive failure for various reasons some time before, but showed now no external signs of failure. In none was congestion of the jugular veins present, but most of them showed a reduced vital capacity and the chest skiagrams revealed increased vascular markings. They had no bronchitis. Although ephedrine did not influence their vital capacity significantly, the side-symptoms were more pronounced in this group than in the normal subjects.

Patients with Bronchial Asthma and Emphysema

The difference in the reaction of these patients is striking. Although there are a few who feel palpitations or tremors after the usual small doses, the great majority do not, and it is surprising to see how large doses of up to 4 gr. (0.25 g.) are tolerated without any toxic effects. Even prolonged dosage of 3–3½ gr. (0.2–0.225 g.) t.d.s. has produced no ill effects in such patients (as has been found by Middleton and Chen, 1927). The effect on the bronchial spasm, as shown from the increase in vital capacity, is pronounced.

We can divide our 51 patients, according to their response to ephedrine, into four groups: (1) those who respond to doses up to 1 gr.; (2) those who respond to higher doses; (3) those who are hypersensitive to very small doses; and (4) those who are refractory or nearly so to any dosage.

(1) *Those Responding to Doses up to 1 gr.*—The vital capacity increases by 200–400 c.cm. Only 5 cases in our series of 51 reacted in this way, which is the usual reaction seen in light asthmatics—the group we have excluded from this investigation.

(2) *Those Responding to Higher Doses.*—The accompanying table gives the results in 28 patients. In some of them the negative or very slight effect of smaller doses is given in italics beside the larger and effective doses. In the first part of the table the immediate effect of a single dose of ephedrine is recorded; in the second part the effect of continuous dosage over several days. In the 7 remaining cases of this group the clinical improvement was definite, but the effect was not recorded by the spirometer. In some of these cases, after the beneficial effect of ephedrine had been ascertained, it was continued with other treatment, especially inhalation of various substances. Breathing exercises were given in many cases throughout the whole course of treatment. In all these cases ephedrine increased the vital capacity considerably (the average was 518 ml.), and the subjective relief was great. Even an increase of 200 ml. was usually accompanied by easier breathing, and in the case of advanced emphysema the breathlessness on slight exertion improved considerably. The wheeze disappeared in some instances, in others it diminished in intensity, while in yet others it remained unchanged in spite of the subjective relief. It is quite clear from the recorded reaction of these patients to smaller doses that they were quite insensitive to them, whereas they reacted favourably to higher dosage, these latter patients being in a higher proportion than those reacting to smaller doses. It would be interesting to find whether there are special clinical characteristics for this group. While it is impossible to differentiate accurately among such a small number of patients, it can be said that the largest doses were required by patients who were in a severe asthmatic state of long duration or had severe emphysema. Patients with asthma-free intervals usually did not require high dosage, but responded to doses near 2 gr. (0.13 g.).

Table showing Results with Doses above 1 gr.

Case	Date	Normal Vital Capacity derived from Weight	Vital Capacity Before Ephedrine	Dose of Ephedrine	Vital Capacity With Ephedrine
		ml.	ml.	gr.	ml.
1	4/6/45	3,120	*4,250*	*1*•	*4,335*
1	4/6/45	3,120	4,250	1½•	4,810
1	13/7/45	3,120	3,850	2•	4,860
2	27/8/45	3,065	2,985	2•	3,225
3	5/2/45	3,480	*2,615*	1½•	*2,635*
3	7/2/45	3,480	2,450	2•	2,705
4	5/2/45	2,685	*1,890*	1½•	*2,005*
4	7/2/45	2,685	1,845	2•	2,060
5	17/8/45	3,150	2,535	2•	3,210
6	1/9/45	2,590	1,070	2•	1,360
7	1/9/45	1,790	775	2•	1,200
8	26/11/45	2,520	*1,835*	*1*•	*2,060*
8	26/10/45	2,520	2,255	1½•	2,950
9	6/7/45	2,030	*1,690*	1½•	*1,810*
9	6/7/45	2,030	1,690	3•	1,900
10	27/8/45	2,410	*2,330*	2½•	*2,500*
10	27/8/45	2,410	2,330	3½•	2,900
11	26/11/45	2,875	2,440	2½•	3,230
12	26/11/45	3,400	1,255	3•	1,875
13	31/8/45	2,875	1,350	4•	1,605
13	3/9/45	2,875	1,590	4•	1,785
14	22/6/45	2,660	*1,415*	*1*†	*1,545*
14	13/7/45	2,660	*1,415*	1½†	*1,670*
14	20/7/45	2,660	1,415	2†	1,945
15	4/12/44	2,270	*1,970*	1½†	*1,965*
15	11/12/44	2,270	*1,970*	2†	*2,400*
15	18/12/44	2,270	1,970	2½†	2,800
16‡	26/10/45	2,280	2,395	2½†	2,815
17‡	29/10/45	4,240	*2,750*	2½†	*2,605*
17	2/11/45	4,240	2,750	3†	3,090
18‡	24/8/45	2,875	*2,175*	2†	*2,130*
18	27/8/45	2,875	*2,175*	2½†	*2,420*
18	31/8/45	2,875	2,175	3½†	2,950
19‡	5/10/45	2,375	1,120	2½†	2,060
20‡	19/11/45	2,210	*1,760*	1†	*1,730*
20	23/11/45	2,210	*1,760*	1½†	*2,210*
20	26/11/45	2,210	1,760	2†	2,625
21	14/12/45	2,950	2,715	2†	3,065
22‡	14/12/45	2,255	3,070	1½†	3,245
23‡	12/11/45	3,780	3,410	2½†	3,845
24‡	12/11/45	3,020	2,290	1½†	2,640
25	24/8/45	4,065	2,710	1½†	3,560
25	31/8/45	4,065	2,710	1½†	3,685
26	4/1/46	2,805	2,970	3†	3,435
27	4/1/46	3,040	1,825	2½†	2,620
28‡	22/10/45	2,410	1,730	1½†	2,025§
			Average increase	..	518

Experiments with suboptimal doses are given in italics.
• Effect of one single dose. † Continuous effect of t.d.s. doses, usually on the third day of dosage. ‡ Inhalation treatment was given at regular intervals during the whole course. § After six days of 1½ gr. t.d.s. the vital capacity was back to 1,800 and 1,750 ml. Under 2½ gr. t.d.s. it increased again to 2,010.

Acquired Ephedrine Tolerance

In the cases described above the resistance to small doses seems to be genuine, as many of them had never been treated with ephedrine and none of them recently. We have, how-

ever, watched other patients who acquired a tolerance to ephedrine.

When, for instance, a dose of 1 gr. was given thrice daily with good success it was found that after a short time—often after 3 or 4 days—the vital capacity decreased again to its original value. If the dose was then increased to 1½ gr. (0.1 g.) the vital capacity increased again, only to lose its effect after the same interval. (An example for this—Case 28—is given at the end of the table.) In this way the amount of ephedrine had to be increased at short intervals till a dosage was reached (usually between 3 and 4 gr.) at which toxic symptoms, mostly nausea, appeared and prevented further increase. This phenomenon is clearly seen only with three daily doses where effects overlap slightly in the daytime. With two daily doses resistance is not acquired so easily, but except in the case of slight and transient attacks this dosage cannot be relied on to give relief. In such slight cases the attack is often cut off by two or three doses and the drug can be omitted again for good. In those cases, however, in which a continuous wheeze, even of a moderate degree, has developed, a long-lasting ephedrine effect is desirable, and in such cases the acquired tolerance is a great obstacle. Fortunately, the resistance is lost as quickly as it is acquired. When the primary efficient dose becomes inefficient, ephedrine can be omitted without any ill effect, and after a short while (often 3 to 4 days) the previous degree of sensitivity has been restored, and the previous dosage can be given with the same good result.

The tolerance for ephedrine develops very quickly. This could be seen when side-symptoms developed on the first day of treatment. When the first dose given to a patient was near his limit of tolerance he often complained of palpitations or tremor. If these were only very slight the dose was not reduced, and in nearly all cases the symptoms disappeared on the second day. This "first-day side-symptoms" phenomenon became very common in our experience. Similar observations have been made by Althausen and Schumacher (1927) and Hollingsworth (1927).

In the circumstances it does not seem useful to give an efficient dose of ephedrine for longer than about 4 days. Then the dose must be increased or omitted altogether. We found that the latter method is satisfactory in all cases except those which still require an uninterrupted ephedrine effect. Most cases do not, and if the ephedrine is omitted for 3 or 4 days the vital capacity decreases only a little and the condition remains subjectively unchanged. After this the previous dosage can be resumed and a new improvement obtained or, at least, the former maximum vital capacity restored. The procedure can be continued for a long time. Later, when the asthmatic state has been overcome, it can be discontinued, and if a new attack should afterwards occur the same routine can be employed again.

(3) *Patients Hypersensitive to Ephedrine.*—In our series 3 patients were observed who were hypersensitive to doses of less than 1/2 gr. (32 mg.). If necessary these patients can be made tolerant by starting with doses of 1/8 gr. (8 mg.).

(4) *Patients Refractory to Any Dosage.*—Another group of refractory cases comprises those which are not hypersensitive but hyposensitive. Doses of 1, 2, or even 3 gr. have either no influence or only a very small influence, and if the dose is further increased heavy toxic symptoms appear. In addition, small improvements, if achieved, are lost quickly through an additional acquired tolerance. Such cases are not very rare. We have seen 8 in our series of 65 cases.

Discussion

These results present the ephedrine effect as much more complicated than it has appeared till now. The individual variation of the response is greater than to most other drugs, and even in the same subject the response varies with the tolerance which may have been acquired, and possibly with the changing severity of the bronchial spasm. Whereas in slight asthmatic conditions the customary small doses are sufficient in a higher percentage of cases (according to the survey of Chen and Schmidt, 1930, about 2 out of every 3 patients seem to have improved), in our series of 51 *severe* cases only 5 responded to this dosage. Thirty-five patients responded well to high doses, which seem to have been employed in the past only rarely (Middleton and Chen, 1927; Christopherson and Broadbent, 1934). The remainder were either hypersensitive to the drug (3) or refractory (8).

These facts make its use difficult, and they explain why in so many cases no satisfactory results are achieved with a chance dosage. The practitioner will find it difficult to test the sensitivity to ephedrine by means of the spirometer, but in hospital the method could easily be used, and it is suggested that every patient who does not respond to the ordinary oral ephedrine doses should have his vital capacity estimated in order to find out the correct dosage. The advantage of such a procedure is great, as the proportion of improvements under ephedrine increases considerably. Therapeutic measures at our disposal in such severe cases are neither numerous nor very effective, and every possibility should be utilized. These patients, with their breathing capacity often reduced to a minimum that allows hardly any movement, will be relieved greatly by an increase in vital capacity of even 200 or 300 ml.

Compared with this possibility of a success, the side-symptoms which may appear should not act as a deterrent. The symptoms of slight overdosage are palpitations, tremor, nausea (altogether in our series we have only twice seen bladder symptoms—frequency—and once mydriasis which disturbed vision). They have never developed to a degree which was in the least dangerous to the patient, and they often disappeared spontaneously on the second day. If they did not, a slight reduction in the dosage at once led to their disappearance. The blood pressure, which was taken at frequent intervals and often daily, did not show any pathological variations under ephedrine. In these circumstances a slight overdosage can hardly be regarded as dangerous, and should be considered justifiable in view of the possibility of a success. If a practitioner who has no spirometer at his disposal finds no response whatever to doses of 1 gr. t.d.s., it is suggested that he should make use of the higher dosages as described in this paper.

Although we regard oral ephedrine in the correct dosage as very efficient in the treatment of severe cases of asthma and emphysema, it is by no means the only one, and often other drugs, or inhalation treatment and physiotherapy, have to be used instead or in combination with it. It is outside the scope of this paper to comment on these other forms of treatment in detail. It should be mentioned, however, that there is one condition in which oral ephedrine seems of little use—namely, the acute asthmatic attack. In the acute attack quick relief is necessary, and oral ephedrine requires too long to become effective. In addition, particularly high doses seem to be required which are often not tolerated. This fact makes the treatment of the severe asthmatic or emphysematous person very complicated and difficult. If one has succeeded in improving such a patient's chronic asthmatic state considerably an acute attack may intervene which requires other forms of treatment, and one will have to wait till this attack has subsided to continue with the previous regime.

Summary

While some subjects are highly sensitive to the customary doses of ephedrine (1/4 gr.-1 gr.), many patients with bronchial asthma and emphysema are insensitive to them, especially the more severe cases that are in a chronic asthmatic state.

These patients often react well to high doses (2 gr.-3 gr.) and without any toxic symptoms or signs. This is shown by the immediate increase of the vital capacity, the frequent disappearance or diminution of the rhonchi, and the subjective relief.

Ephedrine tolerance is acquired quickly. If it is given 3 or more times daily it loses its effect soon—often after 3 to 4 days. If the dose is increased then, the higher dose will have the same effect as the former small one. If a patient has become tolerant to a certain dosage, and the drug is omitted, he will regain his former response to this dosage usually after 3 to 4 days.

An intermittent treatment with the primary effective dose is therefore suggested. It may play an essential part in the rehabilitation of these patients, who usually are regarded as invalids.

Most patients were admitted under Dr. A. Morland, to whom I am indebted.

REFERENCES

Althausen, T. L., and Schumacher, L. L. (1927). *Arch. intern. Med.*, **40**, 851.
Chen, K. K., and Schmidt, C. F. (1930). *Medicine*, **9**, 1.
Christopherson, J. B., and Broadbent, M. (1934). *British Medical Journal*, **1**, 978.
Hollingsworth, M. (1927). *Calif. West. Med.*, **26**, 802.
Middleton, W. S., and Chen, K. K. (1927). *Arch. intern. Med.*, **39**, 385.
Voegtli, W., and Verzár, F. (1945). *Schweiz. med. Wschr.*, **75**, 457.

TRANSIENT NON-SPECIFIC WASSERMANN AND KAHN REACTIONS IN A CASE OF INFECTIVE HEPATITIS

BY

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This case and its laboratory findings are reported to show that, so far as careful investigation can indicate, falsely positive Wassermann and Kahn reactions may occur during the course of infective hepatitis and disappear during recovery. The case was one of a large series met with while working on a routine scheme for investigating jaundice and liver enlargement without jaundice which included serological tests. The other cases in the series and their laboratory investigations will be dealt with in a further communication.

Case Record

The patient, an unmarried female aged 21, suffered from nausea, heartburn, and vomiting for six days before admission, when she began to be jaundiced. Her urine was dark and she was constipated. She had not felt well for the previous four weeks and did not go to work for three weeks before admission. Four months previously she was working in a factory where telephone cables were coated by a spray process, but she emphasized that she herself had not come into contact with the chemicals used. Her past history revealed only a Bell's palsy two years ago. There were no history of venereal disease, no family history or recurrence of jaundice, and no probability of Weil's disease. The patient had not been abroad. Apart from the above-named symptoms on admission, no abnormalities were found at the examination. Menstruation was normal, and gynaecological examination revealed no abnormalities or any signs of venereal disease. For a few days she was rather ill and dehydrated, and was still vomiting, the urine being dark and the motions clay-coloured. Then she made an uneventful recovery, the jaundice fading in three weeks. The temperature, apart from a slight pyrexia of 99.8° on admission, was normal throughout her stay. In addition to the usual routine treatment for infective jaundice the patient was given haematinics and ascorbic acid. She was discharged on the 36th day after admission and was seen again, symptom-free, on the 70th day.

Table showing Results of Laboratory Investigations

No. of Days after Onset of Jaundice	R.B.C. Hb Colour Index	C.V. M.C.V. M.C.H.C.	W.B.C. Polys., Lymphs., Monos., Eos., Basos	Platelets	B.S.R., Wintrobe, in mm./hour	Blood Urea in mg./100 ml.	Van den Bergh D=Direct I=Indirect mg./100 ml.	Alkaline Serum Phosphatase in King and Armstrong Units	Takata-Ara Test	Formol-gel Test	Serum Proteins, Total, Albumin, Globulin, Alb./Glob.	W.R.	Kahn	Urine	Miscellaneous Investigations
1	5,100,000 95% 0·94		7,500 58% 38% 2% 2%	Normal	2	32	D=+ I=5	17	++++	+ after 3 hours	6·5% 3·1% 3·4% 0·91/1	+++ in 1/40 dilution of serum	++	Protein: very faint trace Urobilin, – Urobilinogen, – Bilirubin, + Bile salts, +	Blood sugar 80 mg./100 ml.
14	4,700,000 90% 0·95	41% 87 c.μ 30%			29		D=weak+ I=0·75					+ in 1/2 dilution of serum	Incomplete negative		C.S.F.: Protein, 40 mg./100 ml. NaCl, 680 mg./100 ml. W.R., – Lange, – Pandy, –
27						20	D=weak+ I=0·4	13	+++	–	8·5% 5·9% 2·6% 2·3/1	–	–		
34	4,640,000 88% 0·96														
70	4,500,000 90% 1·0	40% 89 c.μ 31%	11,200 57% 38% 3% 2%	Normal	23	28	I=0·2	8·5	+++	–	7·7% 5·6% 2·1% 2·7/1	–	–		

Discussion

The Table shows that there was a strongly positive Wassermann reaction (fixing 3 M.H.D. of complement in dilutions of serum up to 1 in 40) and a positive Kahn reaction one day after the beginning of jaundice, a weakly positive Wassermann reaction (fixing 3 M.H.D. of complement when diluted 1 in 2) and a suspicious Kahn reaction after a fortnight, and negative reactions by both tests after 27 and 70 days; also, the examination of the cerebrospinal fluid yielded negative results. From these as well as from the lack of historical or clinical grounds one must conclude that the reactions were transient biological falsely positive ones. These findings stress also the necessity for carrying out quantitative serological tests, and repeating them should they be found positive, especially when there is a negative case report—in spite also of the fact that in this case two reactions were positive, which is generally accepted to mean the presence of syphilis.

Biological falsely positive reactions may occur with all tests in the absence of syphilis (because of the presence in the serum of a reagin (Kolmer) similar to that present in syphilis), in yaws 100%; leprosy 40 to 80%; malaria 12 to 20% or higher, depending on the stage; infectious mononucleosis 20%. Positive reactions may also be obtained in relapsing fever, ratbite fever 50%, possibly in Weil's disease and typhus. Furthermore, biological falsely positive reactions may occur in various acute infections, including pneumonia, though their incidence is probably less than 1 in 4,000 (Kolmer and Tuft, 1941). It is a widely held opinion that one can get non-specific reactions in cases of jaundice, but the literature does not support this. A survey of tests conducted by Cummings *et al.* gives the following figures: neoplasms, 0 to 1.7%; fever (natural or induced), 0 to 2.3%; jaundice, none; pregnancy 0 to 1.9%; menstruation, none; active tuberculosis, 2%. Another survey (venereal disease information, as quoted from Gradwohl, 1943) does not mention jaundice at all. Harrison (1931) and Kampmeier (1944) also refer to the widespread opinion of the occurrence of falsely positive reactions in many conditions, among them jaundice, based on the older literature; but they could not confirm these findings, and relate them to errors in technique (see also Kolmer and Tuft, 1941). In this connexion the occurrence of falsely positive reactions due to smallpox vaccination seems worth mentioning (Lynch *et al.*, 1941).

Of 86 cases of the series, in which in addition to liver function tests serological tests were also performed, the reported case is the only one which gave transient positive reactions. The series included acute hepatitis, 35 cases (infective jaundice, 19; post-arsphenamine jaundice, 11—one died of acute necrosis of the liver; post-plasma-transfusion jaundice, 3; post-malarial jaundice, 1; Weil's disease, 1); subacute hepatitis, 3; obstructive jaundice, 20 (carcinomata with and without secondaries in the

liver, 17; gall-stones, 3); cirrhosis of the liver, 3; congestive heart failure, 7; amyloid disease, 3; amoebic disease, 2; carcinoma of the prostate, with secondaries of bone 1, and liver and bone 1; and miscellaneous 11.

The serum protein estimations show a disturbance of the albumin/globulin ratio one day after the jaundice began, which is also apparent from the very strongly positive Takata-Ara reaction. The high globulin value is also confirmed by the positive formol-gel test. There occurred also a flocculent turbidity after addition of water to the serum at the beginning of the protein estimation, which reminds one of the Klausner test. The later-performed investigations show a return to normality. This type of result is not uncommon in cases of hepatitis and other conditions, but one does not find positive Wassermann and Kahn reactions; thus one cannot merely on this basis explain the occurrence of the transient positive serological reactions. Do the findings in this case point to a special combination or pattern of lipoid–globulin which produced the biological falsely positive Wassermann and Kahn reactions?

Summary

A case of infective hepatitis with transient biological falsely positive Wassermann and Kahn reactions is reported. Reference is made to the widespread belief that this occurs fairly often in hepatitis, but the literature does not support this opinion. Other laboratory findings discussed are those which may have some connexion with a non-specific serological reaction.

REFERENCES

Gradwohl, R. B. H. (1943). *Clinical Laboratory Methods and Diagnosis*, p. 1353, St. Louis.
Harrison, L. W. (1931). *System of Bacteriology*, M.R.C., **8**, 258, London.
Kampmeier, R. H. (1944). *Essentials of Syphilology*. Blackwell, Oxford.
Kolmer, J. A., and Tuft, L. (1941). *Clinical Immunology, Biotherapy and Chemotherapy*, p. 715, Saunders, Philadelphia.
Lynch, F. W., *et al.* (1941). *J. Amer. med. Ass.*, **117**, 591.

SUCCESSFUL SURGICAL TREATMENT OF ENTERIC GROUP CARRIER

BY

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Over a period of years, up to January, 1944, sporadic cases of paratyphoid fever occurred in the Caldbeck district of Cumberland. The majority of these were among women in late pregnancy or recently confined. Between May, 1940, and December, 1943, four such cases of paratyphoid fever occurred in this area. There were one or two others among patients not belonging to this group. Certain of the cases terminated fatally.

The presence of a carrier in the district was suspected, but it was not until December, 1943, when the fourth of the cases among pregnant women occurred, that a pointer appeared indicating the possible location of a carrier. This fourth case, which terminated fatally, occurred in an adjoining village, which, while being in the area of the Caldbeck Nursing Association and within the practice of the Caldbeck doctor, was nevertheless quite distinct from Caldbeck village, and generally could be regarded as an extraneous area with little or no direct connexion with the area in which previous cases had occurred. The new common factor arising out of this fourth case was the attendance of the same doctor and the same district nurse-midwife.

Carrier's Case Record

A conference was held between the public health medical officers concerned and the practitioner. As a result investigations were carried out at the Cumberland Infirmary pathological laboratory in respect of the doctor and the district nurse, and cultures of *Bact. paratyphosum* B from the faeces and urine were obtained in the case of the nurse. The Vi and O agglutinins were negative, which is of interest in view of the belief that a chronic carrier usually has both to a high titre, and this test is frequently being used as a sieve to separate out chronic carriers, on the assumption that it is useless to examine Vi-negative cases. Investigations carried out during the succeeding months proved the nurse to be a true chronic carrier. She has maintained throughout that she was not the source of the other cases, but was herself a victim of the disease acquired in the area. The question, however, is academic. She was suspended from the practice of midwifery, and ceased work as district nurse in the area. She entered the Carlisle Infectious Diseases Hospital for further investigation and treatment in January, 1944, and remained there as a patient until October, 1944. During the eighteen months which have elapsed since this nurse left Caldbeck no further cases of paratyphoid fever have occurred.

Dr. Felix, of the Ministry of Health laboratory, typed the *Bact. paratyphosum* B cultures by bacteriophage methods, and classified them as 3a. The cultures from the fatal case and two others which had subsequently occurred in the Caldbeck area—one being the parent of the fatal case—were, as would be expected, also 3a, proving that these were all infected by the same organism. By a fortunate chance the Cumberland Infirmary laboratory still had three other cultures of *Bact. paratyphosum* B, which had been obtained from cases that had occurred in Caldbeck, and had been dealt with in that laboratory, since 1940. These were also found to be type 3a. Of these three, one had been isolated from a puerperal case in March, 1943, which had been attended by the same nurse. The other two cases arose in 1940, both of them being in children. The cultures from cases of paratyphoid B investigated prior to 1940 were dead and could not be resuscitated. This was unfortunate, as it would have been interesting to find out if type 3a had existed in the area before the nurse took up duty in 1938.

From January, 1944, until October, 1944, the stools were examined at weekly intervals, and these always gave a profuse growth on desoxycholate media. During this period the nurse had two full courses of sulphaguanidine, which, as anticipated, had no effect on the condition. After admission to the Infectious Diseases Hospital she was *x*-rayed in February, 1944; her gall-bladder did not fill, indicating that some pathological condition was present. She was strongly urged to have a cholecystectomy done, but was unwilling to agree to operative treatment except as a last resort. In June, 1944, the first attempt was made to obtain a sample of her bile. A duodenal tube was passed, but owing to pylorospasm it would not enter the duodenum. While the tube was in the stomach she was *x*-rayed, and in spite of atropine and gastric massage it did not pass into the duodenum. Culture of the gastric juice was sterile. After giving magnesium sulphate a small quantity of bile-stained fluid was obtained. This, however, was strongly acid, and was sterile.

Dr. Felix, at this point, suggested a vaccine rich in Vi and O antigens. This was given intravenously in graduated doses in July, 1944. The patient had a considerable reaction, with a striking rise in the titre of her H and O agglutinins in the blood to 1 in 1,000 and 1 in 5,000 respectively. The Vi titre was 1 in 20. Her stools, however, remained positive. In August a duodenal tube was successfully passed. The gastric contents were negative, but the duodenal juices, after the administration of magnesium sulphate, yielded a growth of *Bact. paratyphosum* B. In September a second course of injections of intravenous vaccines was given, after which the stools were still positive, and the titre of the agglutinins in the blood remained the same. The mental condition of the patient had by this time altered. She was depressed and wept frequently, and had the impression that nothing effective in the way of treatment was being carried out. She still refused to have her gall-bladder removed, and in October, 1944, was discharged from hospital. Her stools were examined at monthly intervals from October, 1944, until March, 1945, and were consistently positive.

Early in 1945 the desirability of surgical treatment was again pressed on the nurse, and eventually she agreed to have her gall-bladder removed. In April, 1945, she was readmitted to the hospital, and Mr. J. N. Jackson Hartley, senior surgeon at the Cumberland Infirmary, removed the gall-bladder and also the appendix.

Surgical Procedure.—This consisted of cholecystectomy, appendicectomy, and freeing of ileum from the old scar. High spinal (percaine) anaesthesia, with inhalation of cyclopropane, was given. A right paramesial incision from the ensiform process to below the umbilicus was made. The gall-bladder was about one and a half times normal size, and within the gall-bladder there was one stone about the size of the last joint of the index finger. No concretions could be felt in the hepatic and common bile ducts, and the pancreas was not indurated. The cystic duct was isolated and ligated. The gall-bladder was then dissected from the liver and, after tying the cystic vessels, the gall-bladder was removed. Though the appendix did not appear to be abnormal it was removed and the stump invaginated. The last four or five feet (1.2–1.5 m.) of ileum was inspected, but there was no evidence of a Meckel's diverticulum. The abdominal wound was closed in the usual layers without drainage.

Cultures were made from the appendix, the bile, and the gall-bladder wall. Each of these produced a rich growth of *Bact. paratyphosum* B. From the centre of the gall-stone no growth was obtained. Histologically, the gall-bladder showed a chronic

cholecystitis with ulceration. The stools have been examined many times since the operation, and on each occasion have been negative. The sample of urine taken one week after cholecystectomy was positive. The patient was found to have a cystitis, and was treated with acid sodium phosphate. The sample obtained a week later was sterile, and subsequent samples have also been sterile. A sample of serum sent two months after her cholecystectomy showed that the titre of her H agglutinins had dropped from the figure in October of 1 in 2,000 to 1 in 1,000, while the O titre had dropped from 1 in 1,000 to 1 in 500, and the Vi from 1 in 20 to negative.

Comment

The nurse made an uninterrupted recovery. Taking everything into account it has been considered safe to remove her suspension from the practice of midwifery, and she resumed duty as a district nurse in the early autumn. It is appreciated that a permanent cure cannot be taken for granted at this stage, although all the evidence points that way, and the case will be kept under close observation for a prolonged period. In this connexion, C. H. Browning and others (1933) advise post-operative examination of the faeces at frequent intervals for at least one or two years, and in a number of cases referred to in their memorandum examinations of the faeces continued for four or five years. It is interesting to note that this memorandum refers to seven cases in which the gall-bladder and appendix were removed. Of these, six were recorded as cures, and one as a failure.

The results of the surgical treatment in the present case appear to have been highly satisfactory, both as regards safeguarding the persons with whom the nurse may come into contact and, as regards the nurse herself, by preventing her from being permanently deprived of her means of livelihood.

Conclusions

Two main conclusions may be drawn from this case. (1) It supports the existing evidence that surgical treatment may succeed when medical treatment has failed. (2) During the operation for the removal of the gall-bladder the appendix should also be examined, and if its condition is in any way suspicious it should be removed.

REFERENCES

Browning, C. H., and others (1933). *Chronic Enteric Carriers and their Treatment* Med. Res. Cncl. Sp. Rep. Ser. No. 179.
Felix, A. (1944). *Brit. med. Bull.*, **2**, 269.

Medical Memoranda

A Case of Rapidly Cured Hysterical Paralysis

In my experience various hysterical symptoms are often associated with emotional disturbances in auxiliaries and do not respond well to treatment. Frank conversion hysteria is, however, rare, so the following case, which was cured in one session, may be of interest.

Pte. A., aged 20, arrived at the A.T.S. reconditioning centre with her right arm in a sling, saying that it was "useless." Two months before admission she had suffered from pain in the finger-tips followed by weakness and numbness of the fingers and hand, especially of the fifth digit. She went on leave and developed measles, so she was not seen by a medical specialist till she returned to her unit one month later. A diagnosis of ulnar neuritis and radiculitis was then made. She began to suffer from fainting fits and was admitted to hospital for 10 days. Feeling and strength partially returned, but a few days before her admission to the reconditioning centre, while at home on sick leave, she found it was quite "dead."

On examination she was seen to be in good general health and of average intelligence as shown by the matrix test. She was unable to move her right hand and fingers, and had to lift the hand out of the sling. Movement at the elbow and shoulder-joints was limited. There was no muscle-wasting or trophic skin changes, and all tendon reflexes were present and equal on the two sides. Muscle tone was good and the supinated forearm, when tossed from the couch, fell back in supination instead of pronating, as is usual in flaccid paralysis. Doubtful cutaneous hypo-aesthesia was present over the ulnar border of the hand and forearm.

In view of the history and findings a diagnosis of hysterical paralysis following neuritis seemed likely, and this was supported by testing the electrical reactions of the muscles. These were perfectly normal, except that the response of the posterior interossei to faradic stimulation was weaker on the right than on the left. The girl, who was much impressed by seeing her fingers move in response to electrical stimulation, was informed that she had lost the strength in her hand when she had neuritis and had forgotten how to use it. She was told that she could now move her fingers and was instructed to do so. She did, and after about ten minutes' explanation and persuasion she had regained practically full movements of the whole limb. The sling was removed and she was told to go and play the piano—a pastime of which she was very fond.

Apart from a certain initial clumsiness, which wore off with use, she made a complete and immediate functional recovery. No relapse and no further hysterical symptoms developed during the month she was at the reconditioning centre, or during the next two months, as reported by her unit M.O.

The patient was evidently a very suggestible girl, and her hysterical palsy appeared to have developed after her mother had told her, while she was on sick leave, that she had "creeping paralysis." She was delighted at finding that this was not so, and did not show any signs of anxiety reaction when her hysterical symptom was removed.

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Capt., R.A.M.C.

Absence of C.S.F. after Head Injury

It is well recognized that low C.S.F. pressure readings are commonly found after head injuries, but we have not seen reference to or heard of a case in which no C.S.F. could be obtained.

CASE RECORD

A trooper aged 24 was admitted to hospital at 8 a.m. on Aug. 11, 1945, having been thrown from a horse at about 7.30 a.m. He had no memory of the accident, but was quite conscious on admission. The duration of unconsciousness probably did not exceed 20 minutes. The only external signs of injury were abrasions of the upper lip and root of the nose. He complained of some headache and giddiness, not of great severity at first, and he was simply treated as a case of mild concussion. On Aug. 14, however, he complained of very severe headache and pain in the back of the neck, and on examination was found to have marked neck rigidity and a positive Kernig's sign. There were no other C.N.S. changes. Temperature 98°, pulse 60, and respirations 20. In the meantime skiagrams of the skull and cervical spine had been taken and no fracture or other bony lesion was seen. Lumbar puncture was done that morning, but no fluid was obtained, though the operator was quite sure he had entered the subarachnoid space. Later in the evening he was seen again and, there being no change in his condition, it was decided to defer further attempts to examine the C.S.F. till the next day.

On the morning of Aug. 15 he was still afebrile. He was a little slow mentally; the pulse rate was 56, and the meningeal signs if anything more pronounced. It was thought that these were due to blood in the subarachnoid space. Another lumbar puncture, however, again resulted in a dry tap. Accordingly, a few hours later a cisternal puncture was done—a first attempt being made in the lying position and the second while seated. Again no fluid was obtained, though the needle was certainly in the cisterna. While the cistern puncture was proceeding in the sitting position a sucking noise was heard as if air was being drawn through the needle. Almost at once the patient announced that his headache had become much easier, and it was found that the neck rigidity had partially gone. He was then taken to the *x*-ray department, and films showed that air had filled both lateral ventricles and was outlining the sulci on both sides—especially the right side—proving conclusively that the needle had been in the cisterna.

Thereafter he made an uninterrupted recovery. The headache did not reappear, and the neck rigidity had passed off entirely by Aug. 17. The pulse rate had by this time risen to over 70.

A further lumbar puncture on Aug. 22 resulted in a normal-looking fluid under pressure of 165 mm. and containing 1 cell per c.mm. and less than 10 mg. of protein per 100 ml. The Queckenstedt test gave a normal response. A lumbar puncture repeated on Aug. 31 showed a normal fluid under 160 mm. pressure, with 5 lymphocytes and 1 red cell per c.mm., 55 mg. of protein per 100 ml., and a slight increase of globulin. Unfortunately the only blood-pressure recording was done on Aug. 16, and was 130/70; but the pulse volume was good throughout, and there is no reason to suppose that the blood pressure was abnormally low following the accident.

COMMENT

As there was manifestly no block to the circulation of C.S.F. it leaves no doubt that the volume of C.S.F. present must have been so small as to be unobtainable by lumbar or cisternal tap. The fact that air was sucked into the needle shows that there was actually a negative intracranial pressure. The explanation appears to be that the secretion of C.S.F. had ceased as the result of the trauma while its absorption proceeded normally. It has been suggested that the secretion of C.S.F. following head injury may be decreased as the result of cerebral anoxia due to depression of the respiratory centre, but there was never at any time in this case evidence of either cerebral anoxia or oedema.

It is possible that post-concussional headaches may be more often due to the decrease in volume and pressure of C.S.F., in contradistinction to the usually supposed increased pressure or cerebral oedema, than is commonly realized.

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Reviews

PSYCHIATRIC OUT-PATIENT SERVICES

Neurosis and the Mental Health Services. By C. P. Blacker, M.D., F.R.C.P. Foreword by Sir Wilson Jameson, M.D., F.R.C.P. (Pp. 218. 21s.) London: Oxford University Press. 1946.

In this report to the Ministry of Health Dr. Blacker gives a very detailed account of a comprehensive survey of the psychiatric out-patient services of the country. He describes the number and the distribution of out-patient clinics and the work they are doing. He considers the question whether neurosis is on the increase, and concludes that no answer is possible yet, although absenteeism in factories, which has increased very much from before the war, is closely related to neurotic illness. There is a most interesting section on neurosis in industry, in which the opinions and the problems of industrial medical officers are discussed.

From the account of circumstances as they are Dr. Blacker passes to recommendations of what they should be, in both a short-term and a long-term programme. His proposals involve a great increase of the facilities at present available. For every million of the population 100 psychiatric beds should be provided outside the mental hospitals, the bulk of them being set apart for neurotic patients. These units might well be in general hospitals, and in hospitals with a medical school would be teaching psychiatric units. A considerable extension of out-patient facilities is proposed, for which bottlenecks in the training of psychiatrists, non-medical psychologists, psychiatric social workers, and occupational therapists would have to be dealt with. Child services are a first priority. For a population of a million there would be required ten child guidance centres, three child psychiatric clinics, a hostel for 50 unstable or difficult children, and a reception centre for the sorting and disposal of homeless and destitute children. The staff of mental hospitals must be increased and colonies for mental defectives provided on an adequate scale. A most interesting suggestion is that mental hospital psychiatrists should also be engaged in these other organizations, many of them being employed in a part-time capacity in all grades up to the highest—a measure which would help to attract the best men into psychiatry, and aid in the integration of psychiatry and general medicine.

The report is outstanding for its detailed factual basis and the broad vision of its proposals. It is to be hoped that it will meet with serious consideration by legislators.

PREVENTIVE MEDICINE

Preventive Medicine. By Mark F. Boyd, M.D., M.S. Seventh edition. (Pp. 591; illustrated. 27s. 6d.) Philadelphia and London: W. B. Saunders Company. 1945.

The seventh edition of Boyd's textbook on preventive medicine has been thoroughly revised and brought up to date. It is well produced, and documented with recent statistics.

The greater part of Dr. Boyd's book is devoted to the prevention of infectious diseases, individually rather than in the lump; and he deals with his subject in a sound, workmanlike manner. Under each heading he presents in succession the infective agent, the source of infection, the exit of the infective agent from the patient—and then follows the sinister career of that agent until it has established itself in another victim. This is a logical scheme, useful for quick reference. The dominant theme, and the author's special concern, lies in the study of methods of control. This matter is treated clearly and concisely, and the analysis of modern practice is valuable to the health officer and the general practitioner. Dr. Boyd has resisted the temptation to stray into the field of clinical signs and symptoms, and his book is all the better for this self-denying ordinance. It means that the student is able to concentrate his attention on strictly preventive methods.

"Public health" in the sense of environmental hygiene is introduced as part of the scheme for preventing infection rather than as a subject in its own right; and the final chapter, dealing with health administration, is hardly more than an apology for lack of time and space. The new material on nutrition and dietary deficiencies, however, is lively and interesting, and one feels that here again the author is on his own ground. He has also provided an effective little study on demography, with special reference to statistics of sickness.

In spite of its condensation this book is a good, practical study of preventable diseases, infectious and other, and the doctor in everyday practice would profit by having it on his shelf, not too far away from his favourite guides in clinical medicine.

OPERATIONS SHOWN TO NURSES

Demonstrations of Operative Surgery for Nurses. By Hamilton Bailey, F.R.C.S. (Pp. 348; illustrated. 21s. plus 7d. postage.) Edinburgh: E. and S. Livingstone. 1945.

Mr. Hamilton Bailey was the originator of what may be called the demonstration type of book, in which common clinical signs, conditions, and manœuvres are simply described with copious illustrations, chiefly photographic, to enable the reader to form a clear visual impression comparable with that obtained from actual practice. In *Demonstrations of Operative Surgery for Nurses* he has maintained the level set in his previous books. Here the nurse will find straightforward accounts of what the surgeon is doing during the performance of most of the commoner operations, demonstrated by many different surgeons each taking an operation with which he is particularly familiar. To ensure uniformity of style the descriptions have been carefully edited by the chief author, and, as he says in his preface, should be easily within the grasp of the junior probationer.

The illustrations, many in colour, constitute the outstanding feature of the book. There are over 500 of them, carefully chosen and beautifully reproduced. A minor feature deserving a word of praise is the introduction of footnotes to tell the nurse who the surgeons are whose names appear in the text—thus when a de Pezzer catheter is mentioned the footnote reads: "Dr. de Pezzer, Assistant to Prof. Guyon, Necker Hospital, Paris. Invented the de Pezzer catheter in 1885." Too brief to be called biographies, these notes we nevertheless feel are both attractive and useful.

The general production of the book is up to Messrs. Livingstone's usual high standard.

REGIONAL EPIDEMIOLOGY

Global Epidemiology. A Geography of Disease and Sanitation. By James Stevens Simmons, M.D., Tom F. Whayne, M.D., Gaylord West Anderson, M.D., Harold Maclachan Horack, M.D., and collaborators. Volume I. Part 1, India and the Far East; Part 2, The Pacific Area. (Pp. 504. 30s.) London: William Heinemann.

This book is based upon data collected for the use of the United States armed Forces in the late war. Vol. I covers India, the Far East, and the Pacific area. Information is given under a series of headings. First, the geography and climate of the region under study are considered. Next, under the heading public health, one has an account of the organization (if any): then, under subheadings, accounts of water supplies, sewage disposal, insects and other animals of medical interest, poisonous plants, food and dairy products. The next main heading is medical facilities, with subheadings for hospitals, medical personnel, and medical institutions. Then one has diseases, under five subheadings—viz., diseases spread chiefly through the intestinal tract, diseases spread chiefly through the respiratory tract, diseases spread chiefly by contact, diseases spread by arthropods, miscellaneous diseases. There are a short summary and a bibliography.

From the point of view of the general reader, the descriptions of small islands—for instance, Pitcairn Island and Easter Island—are more interesting than those of vast territories, such as Australia or China. The volume should be a useful introduction to more detailed studies by students at home, who will find the bibliographies helpful.

Notes on Books

Art versus Illness, by ADRIAN HILL, is published at 10s 6d. by George Allen and Unwin. The author was a patient in a tuberculosis sanatorium and found that his morale was failing with the long days and weeks of inactivity. Thanks to his capacity for artistic expression he was able to overcome this and achieve the necessary mental attitude towards recovery. He succeeded in interesting his fellow-patients both in the appreciation of pictures and in learning to draw and paint themselves. He was able to find some degree of artistic talent in almost all those whom he approached, and claims that by

fostering this talent and arousing their interest in art he did much to hasten recovery. The present book is a useful guide to this particular form of occupational therapy. Not only will it prove of great service to those who are already artistically inclined, but many who have no idea that they possess such gifts may be found to have them and will correspondingly benefit by their exercise. The importance of treating the mind as well as the body, especially in chronic illness, is being increasingly recognized, and Mr. Adrian Hill's book admirably describes one method of achieving this end.

The St. John Ambulance Association (St. John's Gate, Clerkenwell, London, E.C.1) has issued as a 6d. pamphlet (post free 7d.) a Supplement to the 39th edition of *First Aid to the Injured*, of which 150,000 copies had been printed by the end of last year. A full revision of the main textbook will be undertaken as soon as practicable, but in view of the suggestions and criticisms received since the last edition appeared in 1937 and the knowledge gained in certain aspects of first aid by the experiences of the war, it has been decided to issue this supplement, which is partly a revision of the sections dealt with and partly additional matter.

The National Council of Social Service has published a handbook of advice and information for those who wish to give aid and comfort to old people. It has been compiled by the National Old People's Welfare Committee and gives a practical lead to organizations and private citizens on one of the subjects of to-day. In view of the inevitable increase in the proportion of old people in our community, it is urgent that public opinion be educated about their needs. It is to local and regional old people's welfare committees that the authors of this pamphlet look for co-operative social action to ensure the visiting of lonely old persons (whether living in institutions or in their own homes); to provide voluntary residential homes for able-bodied old people (perhaps by means of a housing association); to organize clubs in which men and women can find fellowship and recreation; and to build up a communal meals service or a scheme of home helps. Practical advice and information on all these are given. *Old People's Welfare* is obtainable from the N.C.S.S., 26, Bedford Square, London, W.C.1, price 1s. 6d., post free.

The October–November, 1945, issue of *L'Architecture Française* (No. 51–52) is devoted to hospital construction and is published from 41, Boulevard de Latour-Maubourg, Paris, VII^e, price 150 francs. It opens with articles on "cabinets de groupe" and on the place of the hospital in a general health service by Dr. Marc Nédelec, followed by one on new tendencies in British hospital organization by Dr. R. F. Bridgman. Descriptions of new hospital buildings in Melbourne and in Sydney and the hospital at Haifa, Palestine, come next; then a long article on hospital architecture in the United States, and another on the projected medical centre at Lille. Michel Roux-Spitz writes on the renaissance of medical architecture, and A. Laborie on the hospital centre for Niort. The whole of this special number is freely illustrated with reproductions of photographs, plans, and diagrams.

Preparations and Appliances

A PLASTIC SPLINT FOR OPPONENS POLLICIS PARALYSIS

Mr. JOHN A. CHOLMELEY, M.B., B.S., F.R.C.S., resident surgeon, Royal National Orthopaedic Hospital, Stanmore, writes:

The efficient splinting in a case of opponens pollicis paralysis has always been a difficult procedure, as witness the variety of splints designed for this purpose, such as that of Miss Forrester-Brown and that described by Mr. J. Russell Napier (1946). In cases of paralysis following anterior poliomyelitis it is not infrequently found that residual weakness or paralysis of the opponens pollicis remains; to splint this adequately, to prevent stretching of the weakened muscle, and to improve the efficiency of the hand has been to me a difficult problem; the splint must remain in position under all conditions, it must be light and preferably inconspicuous—particularly when the paralysis is permanent—and it is desirable that it should be washable.

For some while the application of plastics to splints has been exercising our minds at the Country Branch of the Royal National Orthopaedic Hospital, and the results of the work of Scales and Herschell (1945) suggested to me that "perspex" was a suitable material from which to make an efficient splint in opponens pollicis paralysis. The design that I outlined was that of a band encircling the hand with a tongue passing between the thumb and index finger to keep the thumb in opposition whatever other movements were carried out by the wrist and fingers. It has been found possible to make such a splint of perspex or P.V.C. (polyvinyl chloride); in the case of perspex the usual thickness required is 1/8 in. (3 mm.) or 3/32 in. (2.5 mm.) and the P.V.C. is approximately 3/32 in. thick.; both materials have sufficient elasticity to enable the splint to be a close fit (see Figs. 1 and 2) and yet quite easy to put on, but the perspex is rather more the rigid of the two; thus when the rest of the muscles are strong, particularly in an adult, perspex is slightly preferable. The splint is washable, permits free movement of the wrist, fingers, and the terminal phalanx of the thumb; other movements of the thumb are permitted but are somewhat restricted. When wearing the splint the patient can wash and dress himself, and it does not interfere with writing or using a typewriter. The only objections so far found in the materials used are that the present perspex obtainable is a little too brittle to stand very rough usage and occasionally splints made of P.V.C. have cracked; however these disadvantages can be overcome and are easily outweighed by the efficiency and comfort of the splint.

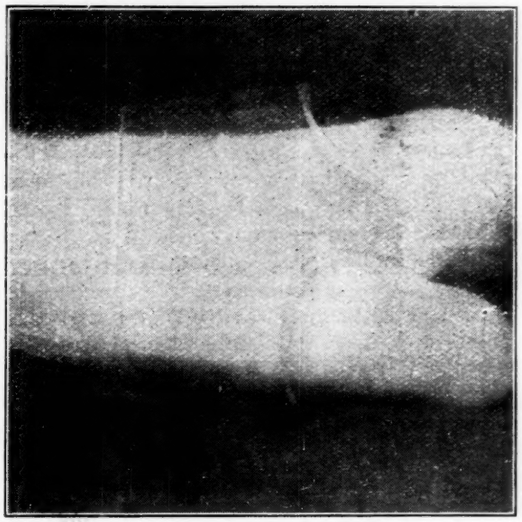

FIG. 1

FIG. 2

I should like to express my gratitude to Mr. J. T. Scales and Mr. W. Herschell for their help, and to the latter particularly for his patience in carrying out my suggestions.

REFERENCES

Napier, J. Russell (1946). *British Medical Journal*, **1**, 15.
Scales, J. T., and Herschell, W. (1945). Ibid., **2**, 423.

COMPRESSION BANDAGES FOR VARICOSE ULCERS

Dr. R. R. FOOTE (London, W.1) has had made two special bandages for the compression treatment of conditions associated with varicose veins. One is a two-way stretch bandage easily applied and removed; the other is an elastic supporting bandage. Details of both may be obtained from the makers, John Bell and Croyden, Wigmore Street, London, W.1.

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EMERGENCY GUARANTEE FUND

As announced on another page, the Council of the British Medical Association has decided on the establishment of a new Emergency Guarantee Fund so that the profession may be financially armed in any conflict it may have with the Government over the National Health Service Bill soon to be laid before Parliament. So that any action the profession may take should not be hampered by lack of means to back it up, it is proposed that every medical man and woman on the *Register* should stand guarantor for as much as he or she can afford—but generally not less than £25. It may be that no one will be called upon to part with his money, but if the profession is to be united in action on a policy which commands the whole-hearted agreement of the majority, then it should be prepared to spare no means to make its action effective. Should there be fundamental disagreement with the principles underlying the proposals the Minister puts before Parliament, then the medical profession, constituting the key workers in the new service, will have to strive hard so to influence public opinion that the pressure of this upon Parliament will lead to the modification of those elements in the Bill to which soundly rooted objection may be taken.

The cost of this campaign will be borne from existing resources. But should Parliament prove obdurate and refuse to modify proposals in the Bill which the profession might consider to strike at the essential freedoms of medicine the doctors of this country might have to decide not to work in the new service. Such a decision would not be taken lightly, nor would such a decision mean that medical men would withhold their skill from patients in need of it. It would mean simply that the majority of doctors would continue to serve their patients outside and not inside the new service. If this happened vastly greater resources would be needed, and it is with this possibility in mind that the Council has caused the new fund to be established. It is earnestly to be hoped that everyone, whatever his political views, will make the individual guarantee asked for.

To be forearmed is to be prepared for the fight if there is to be one, and the Emergency Guarantee Fund is being established for this purpose. Whether a fight will be necessary will not be known until the contents of the Bill are revealed, until it has been possible to formulate the attitude of the doctors of this country to them, and until the final answer of Parliament is known. Each doctor will have to make up his own mind, and the task of the British Medical Association and the Negotiating Committee will be to discover what the consensus is, and then to decide in the light of this what action to take to see that the views of the majority prevail. Although the present Government has a substantial balance of votes in the House of Commons it would presumably be reluctant to try to coerce the medical profession to accept a form of service which it considered incompatible with its honour and real interests. If the new health service is to take proper shape and is to provide for the medical needs of the people of Great Britain the Government must have the willing co-operation of the medical men working in it. It is to be hoped that the Bill will be so framed as to make this possible, and so avert a costly and bitter struggle which, whatever the outcome, will leave behind it a sense of frustration and discontent.

CUSHING'S SYNDROME

Since Cushing first described the symptom complex associated with basophil adenoma of the anterior pituitary a number of cases have been recorded with the same symptoms but with no pituitary tumour. Such cases are classified as Cushing's syndrome as distinct from Cushing's disease. A common feature of the disease and of the syndrome is cancer, adenoma, or hyperplasia of the adrenals, and many authorities[1-3] now regard adrenal hyperfunction as the primary cause of the condition, even if hyperplasia is not always demonstrable. Albright,[2] who reviews the means by which adrenal overactivity could produce the predominant symptoms, regards the cardinal feature of the syndrome as tissue deficiency, evidenced by thin skin, weak muscles, osteoporosis, and easy bruising—symptoms usually associated with a tendency to insulin-resistant diabetes and increased 17-ketosteroid excretion. His first hypothesis was that the oversecretion in the adrenal cortex was particularly of those hormones affecting sugar metabolism, so that there was increased gluconeogenesis, leading to the diabetic tendency and loss of tissue. Treatment with androgens was therefore begun to produce nitrogen retention and the deposition of muscle tissue. The results were successful: the patients became stronger and heavier, and their nitrogen, calcium, and phosphorus balances became positive. That this was due to the deposition of normal tissue was shown by the close agreement between the theoretical phosphorus retention based on the calcium retention (Ca : P of bone = 2.23) and nitrogen retention (N : P of soft tissue = 14.7) and the phosphorus retention as measured. These beneficial effects of androgen are confirmed by Perloff, Rose, and Sunderman,[4] although they find the high nitrogen retention initially produced maintained only partially during long-continued androgen therapy.

If Albright's theory were true there should be a negative nitrogen balance with an abnormal tendency to ketosis in Cushing's syndrome, and it might be expected that uncontrolled diabetics would develop similar symptoms; but this does not happen. The nitrogen excretion under conditions of minimal nitrogen intake should still be high; in fact it is not. To circumvent these objections Albright suggests

[1] Anderson, E., Haymaker, W., and Joseph, M., *Endocrinology*, 1938, **23**, 398.
[2] Albright, F., *Harvey Lectures*, 1943, **38**, 123.
[3] Kepler, E. J., *J. clin. Endocrinol.*, 1945, **5**, 70.
[4] *Arch. intern. Med.*, 1943, **72**, 494.

that the hormones of the adrenal cortex affecting sugar metabolism do not stimulate catabolism but interfere with anabolism. This would explain the diminished nitrogen output in conditions of diminished intake. The author follows others in believing that there are two hormones or groups of hormones produced by the adrenal cortex—one group affecting sugar metabolism, the other growth and nitrogen metabolism (briefly referred to as S and N hormones). On the basis of various clinical and experimental findings Albright suggests that the N-hormone production is raised only slightly in Cushing's syndrome and is indicated by the increased 17-ketosteroid excretion. The rise is regarded as compensatory, and it can be reduced by giving methyl testosterone (which is not itself excreted as ketosteroid). He thinks the adreno-genital syndrome is due to an increase in N-hormone production.

Albright is well aware how many unproven links there are in his chain of deduction, and his theory is only tentative. It offers no explanation of the hypertension, and would lead one to expect changes in blood electrolytes the opposite of those in Addison's disease; but such changes have been found in only a small proportion of cases.[5-7] However, the new theory does at least give rise to a new outlook on clinical cases and suggests new lines of investigation. This is of especial importance in such a comparatively rare disease, where large series of cases can be studied only from reports which often fail to provide the one essential detail. Albright's theory leaves the explanation of basophil-cell hyalinization open to debate, for this change in the anterior pituitary is to-day the most constant pathological finding in Cushing's syndrome, as it was when Crooke[8] originally described it. Thompson and Eisenhardt[9] found hyalinization present in the hypophyses in 58 of 63 cases, and the remaining 5 cases were doubtful examples of the syndrome. Does the change in the basophil cells represent a stage of cell death or a phase of cell activity? In either case it can be regarded as an effect of adrenal overactivity and at the same time as the immediate cause of at least some of the symptoms of Cushing's syndrome. If the hyalinization is degenerative then one may view it, as Kepler[3] does, as a sign of compensatorily depressed corticotrophin secretion; but the basophil cells do not secrete one pituitary hormone alone, and it is unlikely that a profound change in corticotrophin secretion would leave the secretion of the other hormones unaffected. Hence the symptoms caused directly by adrenal oversecretion may be supplemented by other secondary effects. McLetchie[10] believes that basophil-cell overactivity is the essential lesion in Cushing's syndrome (or disease), and that the hyalinization is a consequence of this; but as he regards the adrenal cortex and the basophil cells as members of a complex in which overactivity of either leads to overactivity of the other his interpretation does not differ widely from theories which hold an adrenal cortical lesion to be the primary cause.

[5] McQuarrie, I., Johnson, R. M., and Ziegler, M. R., *Endocrinol.*, 1937 **21**, 762.
[6] Willson, D. M., Power, M. H., and Kepler, E. J., *J. clin. Invest.*, 1940, **19**, 701.
[7] Cluxton, H. E., Bennett, W. A., Power, M. H., and Kepler, E. J., *J. clin. Endocrinol.*, 1945, **5**, 61.
[8] *J. Path. Bact.*, 1935, **41**, 339.
[9] *J. clin. Endocrinol.*, 1943, **3**, 445.
[10] *J. Endocrinol.*, 1944, **3**, 332.

SYNERGISM BETWEEN ADRENALINE AND ACETYLCHOLINE

The pharmacological effects of adrenaline and acetylcholine have a special interest because it appears to be a general law that all their sites of action are supplied with nerves capable of releasing the appropriate substance locally. New pharmacological discoveries about them thus lead almost inevitably to new physiological knowledge. The actions and interactions of these two substances have been much studied in recent years and much new information has been obtained, largely as a result of a brilliant series of papers from the pharmacological laboratory at Oxford. An authoritative review[1] of this work by Prof. J. H. Burn will be widely welcomed.

The actions of acetylcholine can be divided into muscarine actions and nicotine actions. Most, though not all, muscarine actions resemble the effects of stimulation of parasympathetic nerves. They are antagonized directly by atropine, and indirectly by the opposite effects produced by the injection of adrenaline or by stimulation of adrenergic nerves. This much is simple and familiar, but the nicotine actions are more complicated. These are mostly actions on nerve cells or voluntary muscles, causing the initiation of impulses which are conducted over the cell with the characteristic rapid electric changes. Small doses of acetylcholine produce these impulses; larger doses eventually depress them. Prostigmin inhibits the destruction of choline esters, so that small doses of acetylcholine act as if they were larger than they really are. The stimulant action of very small doses is thus increased, and that of rather larger doses may be changed to inhibition. The action of adrenaline is superficially similar but fundamentally different. Low concentrations of adrenaline increase the stimulant action of small doses of acetylcholine, and higher concentrations of adrenaline antagonize them. These two actions may be seen as two phases in the effect of a single dose.

The synergistic action of small doses of adrenaline and acetylcholine is of fundamental interest. It has been most carefully studied in perfused sympathetic ganglia. Using this preparation E. Bülbring found that low concentrations of adrenaline increased the effect of preganglionic stimulation or of the injection of acetylcholine. She also found that the ganglion itself liberated a small amount of adrenaline when the preganglionic nerves were stimulated, in addition to the acetylcholine whose liberation was demonstrated 12 years ago. This surprising fact suggests that adrenaline, as well as acetylcholine, may play an essential part in the action of the ganglion.

Adrenaline, either injected or liberated by adrenergic nerves, also has various actions on voluntary muscles and nerves. It increases the action of acetylcholine on denervated muscles; it improves neuromuscular transmission when this is diminished by fatigue; it actually improves transmission along the trunk of a nerve. This last fact was discovered in perfusion experiments in which the nerves gradually lost their action on the muscle unless they were stimulated near the muscle, but regained it under the action of adrenaline. It was confirmed by the observation that adrenaline increases the action potentials in the nerve itself when the stimulus is submaximal. Even this effect may be an example of synergism between adrenaline and acetylcholine if the theory that acetylcholine plays a part in the transmission of impulses along a nerve is confirmed. These experiments provide part, at least, of the explanation of the action of adrenaline in diminishing muscular fatigue, and of the action of ephedrine in myasthenia gravis;

[1] *Physiol. Rev.*, 1945, **25**, 377.

ephedrine presumably acts by preserving the natural adrenaline of the body from destruction. Similar effects have been discovered in the spinal cord. Bülbring and Burn perfused a dog's spinal cord with blood, and showed that the arterial injection of acetylcholine caused contraction of voluntary muscle due to impulses passing down the nerves, provided that adrenaline was present in the blood supplying the spinal cord. If there was no adrenaline there was no effect.

The explanation of these synergistic effects of adrenaline and acetylcholine is unknown. They are not due to an effect of adrenaline on cholinesterase. They are probably not due to an action on the blood supply to the muscles and nerves. It is suggested that adrenaline may improve the access of acetylcholine to its site of action by altering the permeability of a hypothetical membrane, but there is no direct evidence for this theory.

It is not possible to give here more than a brief summary of some of the more striking facts. It is clear that pharmacology has added an important new chapter to our knowledge of the workings of the body.

MORTALITY FACTORS IN ACUTE APPENDICITIS

So long as patients continue to die from appendicitis—and Prof. Grey Turner[1] reminded us in 1938 that about 3,000 people die every year from acute appendicitis in the United Kingdom—reports of appendicitis will continue to be important, but they will be important only if the results are measured against a rigid statistical yardstick. Hoerr[2] has published from the Peter Bent Brigham Hospital a long series of cases of acute appendicitis from which several interesting and a few important findings emerge, all bearing the hallmark of statistical significance. The series includes 2,195 case records from the period 1913–40, with a total mortality of 4.6%. None of the patients was under 12 years of age.

The first surprising feature is that there has been no significant improvement in mortality since 1913, in spite of improved technique, a better understanding of gastro-intestinal physiology, and an appreciation of the importance in peritonitis of gastro-intestinal siphonage and fluid balance. No reduction of mortality followed the introduction of sulphonamides. In the series there were 100 deaths; two of these occurred in the operating theatre, and 18 were due to extra-abdominal causes. The remaining 80 cases, in which death was due to unchecked appendicitis or its immediate abdominal complications, are specially studied. Only 13 of these 80 patients were operated upon within forty-eight hours of the onset of the disease; in 53 the appendix had perforated into the general peritoneal cavity, in 14 there were localized abscesses, and in 13 the appendix was unruptured. In 22 patients the cause of death was progressive peritonitis, and in 15 patients it was residual abscess—multiple in 11 cases, and drained at a secondary operation only in 5. The other abdominal causes of death were ileus, mechanical obstruction, pylephlebitis, pyaemia, and anaesthetic death at a second operation. While no overwhelming advantage seemed to be derived from the McBurney incision, there was a significant difference in its favour in all cases except those of localized abscess, when in any event the best incision is that which directly overlies the abscess.

When the fatality rates of drained and undrained cases are compared no useful information is obtained, since drainage is performed as a rule in the more serious cases. Such a comparison does, however, prove useful in one respect: the fatality rate in the undrained cases of appendicitis *with* perforation (2.4%) was less than the fatality rate in the drained cases of appendicitis *without* perforation (3.1%). Here is strong justification for the modern trend towards closure without drainage after removal of the unruptured or the recently ruptured appendix.

Hoerr's analysis serves as a warning to the surgeon against the complacent assumption that death from acute appendicitis can always be ascribed to lateness of operation; those deaths which were due to failure to drain a residual abscess argue, in these cases, a fault in post-operative management, and certain of the other deaths, Hoerr avers—and notably the 10 due to post-operative intestinal obstruction—might have been avoided.

[1] *British Medical Journal*, 1938, **2**, 691.
[2] *Surgery*, 1945, **18**, 305.

THE LANCS TUBERCULOSIS SCHEME

It is an achievement in any branch of medicine for one person to look back over a continuous record of success lasting 33 years in dealing with a particular problem. For long the Lancashire Tuberculosis Scheme has been synonymous with the name of Lissant Cox, and his final report, though abridged from the elaborate compilations of pre-war days, gives the material for appreciating this first-class clinical and administrative organization. After two world wars and a "financial blizzard," the Lancashire scheme is more comprehensive than ever before, and in 1934 over 30% of pulmonary cases on the register had received some form of thoracic surgery. Divided into five large areas, each with over a quarter of a million people, and now including as satellites Blackburn County Borough and the Isle of Man, the Lancashire scheme is founded on a series of tuberculosis hospitals, to which dispensaries and social services are attached. Dr. Lissant Cox points out that the White Paper proposals tend to follow a principle which has always been maintained in Lancashire—namely, that a tuberculosis officer should be at the same time hospital physician, dispensary consultant, and director of social work among his patients. Certainly the Lancashire results justify this conception of united tuberculosis work.

The war has left from 12 to 15% higher incidence of pulmonary tuberculosis over 1938, with no smaller rise in non-pulmonary disease, but these figures are less severe than in other areas. Maintenance allowances (266/T) are considered successful, so far as they go, but need improvement for chronic patients and extension to non-pulmonary disease. Dr. Lissant Cox's report is no exception to others when it speaks of the shortage of staff, both nursing and domestic, and the resulting long waiting list of over 1,000 patients. A deputation to the Ministers of Labour and of Health failed to produce an improvement, and the position is even more serious than last year, showing now a deficiency of 28%. In this connexion it is satisfactory to notice that progress has been made with a systematic supervision of nurses' health: *x*-ray photograph, Mantoux testing, records of weight, etc., are now a routine in all the Lancashire sanatoria, and the general improvement in the nurse's environment is being accelerated.

One most interesting feature of the report is a note of a case of avian tuberculosis in a human being, as discovered by Dr. F. C. S. Bradbury, who typed the culture in his own laboratory. This is the first such instance to be reported in this country of what must be a very rare condition. Bradbury suggests that typing of culture material should be developed further to pick up the odd avian case. This would be interesting from a research point of view, though it is at present difficult to see what bearing it would have upon clinical treatment. The Lancashire scheme costs the ratepayers over a quarter of a million pounds, or the equivalent of nearly sixpence in the pound.

Lancashire is fortunate in having chosen as successor to Lissant Cox Dr. Bradbury, who unites sound clinical judgment with an extensive knowledge of the bacteriology, science, and mathematics of his calling. He becomes consulting central tuberculosis officer—a status slightly varied from that of his predecessor, as Dr. Bradbury is now administratively responsible to the county medical officer. Dr. Lissant Cox may look back with satisfaction upon his life's work, and the success of the Lancashire scheme is due chiefly to his human qualities, his correct choice of men, his enthusiasm.

NEONATAL MORTALITY IN ABERDEEN

In recent years almost half of the neonatal mortality has been due to prematurity, and it is obvious that the causes must be found and eliminated if any considerable reduction in infant mortality is to be achieved. In a recent paper Prof. Baird[1] examined the probable causes of prematurity and the influence of social and economic factors. The material consisted of hospital and nursing-home cases in the city of Aberdeen. The classification of prematurity was by weight and included all infants of 5½ lb. (2.5 kg.) or less irrespective of the length of gestation. It is difficult to arrive at the incidence of prematurity in the general population, since the lying-in hospitals, which supply most of the data, do not give a cross-section of the community; comparison between hospitals is not less difficult, as the emergency cases admitted vary in number and have a prematurity rate of about four times that of booked cases. During the six years 1938–44 8,808 booked cases were treated in Aberdeen, and in 738 instances the labour resulted in a premature baby—i.e., 8.4% of the total deliveries. In 51.9% of the cases the cause of prematurity was unknown; in 16.1% it was due to eclamptic toxaemia, and twin pregnancy accounted for 12.4%. Of 1,920 births in nursing homes and specialists' practices 91 (4.8%) were premature. The mortality among the live-born prematures was 26% in the hospital series and 12% in the other group. The difference in survival rate is attributed by the author to the greater vitality of the infants in the latter group compared with the former, and not to differences in nursing or medical care. Eclamptic toxaemia, the most frequent obstetrical condition associated with prematurity, was twice as common in the poorer hospital group as in the well-to-do specialist group; the percentages were 8.5 and 4.4 respectively. The stature of the mother in the better economic group was greater than in the hospital group, and in both groups there was a correlation between height of mother and weight of baby. Caesarean section appears to be related to stature; this mode of delivery was practically confined to very short women. Forceps delivery does not appear to be related to stature, and was over three times more common in private practice than in hospital experience.

The recent fall in the stillbirth rate may to some extent be due to better management of pregnancy and labour, but Prof. Baird thinks it is more likely to be associated with the better nutrition of the mother. The fall in the neonatal mortality in Aberdeen—the rate in 1944 was 83% of that in 1938—was due to the large reduction in prematurity and congenital debility. Infection as a cause is still as common, but there has been an increase in other causal conditions. For example, the frequency of congenital malformation as a cause of neonatal mortality was 195% of the pre-war level. Prof. Baird considers that the diminution of neonatal mortality in Aberdeen during recent years is mainly due to the better health of the mothers as a result of improvements in diet. But he points out that it is difficult to produce direct evidence about experiments in human nutrition, as only small numbers can be successfully dealt with in detail. The issue of supplements does not appear to have been popular: the author stated, "In many cases, however, not more than 30% of the expectant mothers take up these vitamin preparations"—that is, the orange juice, cod-liver oil, and vitamin A and D tablets provided in antenatal clinics.

[1] *J. Obstet. Gynaec. Brit. Emp.*, 1945, **52**, 339.

EVOLUTION OF VIRUS DISEASE

F. M. Burnet's Dunham Lectures at Harvard have been published as a Harvard University Monograph entitled *Virus as Organism*.[1] They combine with instructive and well-documented fact a good deal of very interesting speculation. The author concludes in the first place that viruses must be regarded as micro-organisms, and accepts the hypothesis originally advanced by Laidlaw that they are degenerate forms of what once were larger and more independent species, probably bacteria. He next looks for the ultimate source of almost all human virus infections in diseases of animals, pointing out that man has been sufficiently gregarious for continued spread to be possible in the human host only for a few thousand years. The first known appearance in man of many virus diseases is much more recent than that: psittacosis, St. Louis encephalitis, and others have attacked man only in the present century. Derivation from animals is perhaps most clearly seen in yellow fever, the jungle reservoir of which has been brought fully to light only recently. It is tempting, since Theiler's discovery of a similar infection in mice, to assume a rodent source for poliomyelitis. The probable history of these and other virus diseases is the major theme of these lectures, but involved with it are other aspects of the host–parasite relationship. Of particular interest is a critical analysis of the epidemiology of influenza. Burnet is not encouraging on the subject of influenza vaccines; during propagation in the laboratory the virus passes from the O to the D phase, a change accompanied by a demonstrable reduction in pathogenicity, and "one has an uneasy feeling that perhaps all our current influenza laboratory work is being done with something which has ceased to be the pathogenic virus with which we ought to be primarily concerned." There also appears to be some element in influenza immunity other than the antibody content of the blood, and hence incapable of assessment.

The general impression produced by this brilliant survey is on the whole rather alarming. We are singularly defenceless against many of the viruses, and, despite the accumulated data of many years of study and all the deductive and imaginative treatment which Burnet can bring to bear on them, we scarcely know the first thing about why a virus may suddenly increase the scope of its activity. Whatever factors may be concerned, they have certainly operated under the conditions in which we are now living, and further developments may be expected, whether in the greater prevalence of recognized virus infections or in the appearance of new ones.

Prof. Adolf Lorenz, the famous Viennese orthopaedic surgeon who introduced the bloodless method of reducing congenital dislocation of the hip-joint by forcible manipulation, has died in his 93rd year.

Dr. W. S. A. Griffith, consulting physician-accoucheur to St. Bartholomew's Hospital, has died in his 92nd year.

[1] *Virus as Organism. Evolutionary and Ecological Aspects of Some Human Virus Diseases.* By Frank MacFarlane Burnet, M.D., F.R.S. ($2.00 or 11s. 6d.) Massachusetts: Harvard University Press; London: Oxford University Press.

RECURRENT DISLOCATION OF THE SHOULDER

THE JOHANNESBURG STAPLE DRIVER

BY

Sir HENEAGE OGILVIE, M.Ch., F.R.C.S.

Late Consulting Surgeon, East Africa Force

In the rejoicings over victory the first successful campaign in the cause of freedom, and one of the most dramatic military feats in the world's history, is seldom remembered. At the end of January, 1941, the East Africa Force, under Sir Alan Cunningham, forced the passage of the Juba River on the Kenya frontier. In little more than two months they advanced nearly two thousand miles over some of the most difficult country in the world—the waterless and roadless deserts of Somalia and the mountains, forests, and precipitous gorges of Abyssinia, and defeated an army enormously superior in numbers and equipment.

The East Africa Force had no British units and only a few individual officers from Britain. The soldiers were chiefly Africans, men from the Gold Coast, Sierra Leone, Nigeria, and the East African Territories, under European officers—regular soldiers or settlers. The specialist services—engineers, artillery, air corps—were for the most part South African, and South Africa also provided the spearhead of the infantry and the bulk of the medical services, to which units from Southern Rhodesia, Kenya, the Gold Coast, Nigeria, Zanzibar, Uganda, and Tanganyika were added. A more magnificent body of men it would be hard to find. The African as a soldier displays a courage that no danger can daunt and a cheerfulness that no discomfort can damp. The European bred in Africa, like his cousins in Australia and New Zealand, and his compatriots the brown trout when transplanted to the same territories, seems to develop a size, physical beauty, and stamina exceeding that of his parent stock. These men were tough; and almost the toughest thing about them was their habit of playing rugby football on fields like stretches of gravel littered with large stones. It is little wonder that habitual dislocation of the shoulder, which Bankart pointed out many years ago is seen chiefly in epileptics and rugby footballers, seemed almost an occupational injury among South Africans and Rhodesians in the Force. The number I saw was considerable. The number requiring operation during the year and a half that I was in the command was about a dozen.

This note is prompted by Surg. Cmdr. P. B. Moroney's description in the *British Medical Journal* of July 28, 1945 (p. 122), of a technique for drilling the glenoid in Bankart's operation. As he states, the essential lesion in habitual dislocation of the shoulder is a detachment of the anterior half of the glenoid ligament, leaving the glenoid surface a shallow oval facet on which the humeral head rests insecurely. The treatment is therefore replacement and reattachment of the glenoid rim. Clairmont's operation is based on faulty pathology, but it often works because of the mass of fibrous tissue which it wraps round the joint. Nicola's operation, limiting movements which should be free by an intra-articular ligament that should not be there, restrains movement and dislocation only till the ligament saws off, when the dislocation returns but not all the movement. The various bone-graft operations, judging from the skiagrams I have been shown, depend on the production of a massive osteoarthritis for their success. Glenoid reconstruction has not failed in my own cases of dislocation or those I saw in Johannesburg, and it leaves a full range of painless movement.

Surg. Cmdr. Moroney's apparatus seems a complicated way of doing a fixation that can be performed in a few minutes with the Johannesburg staple driver illustrated. This model was presented to me in 1941 by Mr. A. D. Polonsky, one of the brilliant group of orthopaedic surgeons working under F. P. Fouché at the Johannesburg General Hospital and in the traumatic service of the Mines Hospital, and was, I believe, modified by him from the model originally designed by Allen of Durban, and made in the workshops of the Department of Mines. It has been copied by Down Bros. (Fig. 1).

The application of the instrument needs no description. I used two or three staples to fix the glenoid rim, and another to reattach the coracoid. My post-operative skiagrams are all in Kenya, but the outline sketch (Fig. 2) will illustrate the position of the staples.

FIG. 1

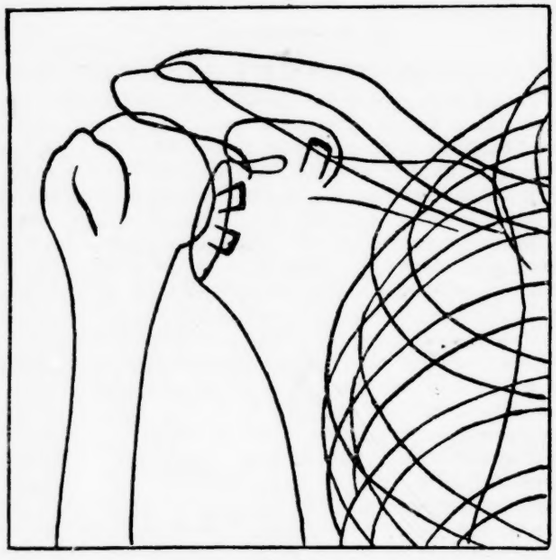

FIG. 2

N.B.—I have heard from Mr. Fouché that a later model, in which the staple is held in its socket by a hook, is now in use in Johannesburg.

WARTIME ACTIVITIES OF THE HEALTH ORGANIZATION OF THE LEAGUE

A special number of the *Chronicle of the Health Organization of the League of Nations*, the publication of which was suspended in May, 1940, has been issued[1] describing the work and difficulties experienced by the Health Organization during the past years. The return of officers to their own national service had reduced the staff of the Health Section to two doctors by the middle of 1940, and as the war went on the difficulty of communications prevented headquarters from obtaining advice from the members of the Health Committee and its technical commissioners. The result of this isolation was that the Health Section was increasingly compelled to rely on its own resources. The publication of the *Weekly Epidemiological Record* was never suspended during the war, though its field of activity was restricted. Before the war the Epidemiological Intelligence Service received data regarding infectious diseases and demographic statistics from every country in the world, with the exception of the Soviet Union, and from most large towns. From 1940 onwards no information was forthcoming from the zones of military operations, and the spread of the war to America and the Far East caused the League's Epidemiological Service to concentrate on Europe. The service was successful in obtaining data respecting epidemics and mortality from belligerent, occupied, and neutral countries; the only exceptions were the eastern front and Albania, Serbia, and (at some periods) Greece, the latter countries having been deprived of postal services with the outside world.

Biological standardization, a special feature of the work of the Health Organization, proceeded satisfactorily during the war. The Danish State Serum Institute at Copenhagen, which was entrusted with the distribution of international standards

[1] Obtainable from Allen and Unwin, 40, Museum Street, London, W.C.1.

of sera, was cut off from many countries by the invasion of Denmark in April, 1940. The Medical Research Council was approached and agreed to supply from the National Institute at Hampstead international standard sera to the laboratories in the countries which were no longer able to obtain them from Copenhagen. The National Institute had previously been responsible for the standardization of vitamins, hormones, and certain medicaments. On the Health Section's initiative an international conference on the standardization of penicillin was convened in London in October, 1944, under the presidency of Sir Henry Dale. A similar field of work, the unification of the national pharmacopoeias, was continued throughout the war.

Although the pre-war work was continued, so far as possible, and despite staff shortage, particular problems arising directly out of the war were undertaken by the Health Organization. These problems covered a wide range in the medico-social field. Information about the food ration before and during the war in occupied countries, the types of vitamin deficiency disease that were most to be feared, and other data on possible post-war requirements were supplied to the Inter-Allied Bureau set up in London in 1942. In 1943 the Health Section co-operated with U.N.R.R.A. by lending a staff to provide an epidemiological intelligence service in Washington; this staff was later taken over by U.N.R.R.A. A polyglot glossary of communicable diseases, giving terms employed to designate them in twenty-four European languages, was prepared for the International Red Cross.

The report shows that despite adverse conditions and reductions in resources of the Health Section its pre-war activities were maintained, though modified by circumstances in some instances, and that the organization was successful in adapting itself to the difficulties and demands that arose out of hostilities and was able to perform very useful services.

TRAINING OF GENERAL PHYSICIANS

In October, 1945, the Council of the Royal College of Physicians of London appointed a committee of nine Fellows "to consider the question of the training required for general physicians and to report back to the Council." The committee having fulfilled its terms of reference, the Council submitted the following report to the Comitia held on Jan. 31, which approved it.

Criteria for Consultants

The Council considered the criteria for consultants which had already been approved by the three Royal Colleges:

1. Consultants must have received their training at an approved hospital. Each College shall approve hospitals as suitable for training in its own branch of the profession and recognition shall be granted by the Standing Joint Committee on the nomination of the individual College concerned.
2. Consultants shall have a minimum of five years' approved training and experience after qualification.
3. Consultants must hold an approved higher degree or diploma.
4. To be approved as a consultant, a candidate must hold or have held a recognized appointment to a hospital.
5. Consultants must not engage in general practice.

The Council approved them in principle as applying to general physicians, but pointed out that training might be undertaken at more than one hospital. It also agreed that the consultant should have a minimum of five years' approved training and experience after qualification. This should be held to mean five years after registration.

The Council agreed that the M.R.C.P. examination should continue to be a test of the candidate's knowledge of general medicine. It was thought that it should not be taken earlier than one year after registration.

Training of Physicians in General Medicine

The Council agreed that it was essential that the required training for general physicians should be as elastic as possible within the general framework already agreed upon. It agreed that the following minima should be expected:

1. Candidates should hold a resident appointment in an approved general hospital for at least one year after registration. During six months of this period the post held should be that of house-physician. The remaining six months should be spent in another junior medical appointment such as house-surgeon, house-physician in a special hospital, or resident in one of the special departments.
2. Candidates should hold a clinical appointment such as that of registrar or chief assistant for at least two years in an approved general hospital. During this time he should be encouraged to undertake research work or to hold some additional appointment such as a demonstratorship in a department of physiology, anatomy, pathology, or biochemistry.
3. Candidates should spend at least one year in research or travel or in some non-clinical subject, such as physiology, anatomy, pathology, or biochemistry.
4. No rigid requirements should be laid down for the remaining period of training. A general physician should have some knowledge of the work of special hospitals such as sanatoria, children's hospitals, mental hospitals, etc., and appointments in such hospitals should be recognized. A period of six months spent in general practice might be allowed to count as part of the five years' training.

The Council agreed that there should be no rigid order for holding these appointments, and emphasized that the times suggested were minimal and not maximal.

EMERGENCY GUARANTEE FUND

The Council of the British Medical Association has decided that an Emergency Guarantee Fund shall be established. The members of the Council will be the Trustees of the Fund. It will be used at the discretion of the Trustees to further the cause of the medical profession in any major dispute which may occur between the Government and the medical profession in connexion with the proposals for a National Health Service. The Fund will be in two distinct parts, Part A and Part B. The A Fund will be for the purpose of providing the general funds from which the administrative, propaganda, and allied expenditure will be met. The B Fund will be used for the purposes of the A Fund, and in addition, and within the limits of the Fund, for the compensation of individual practitioners who, because of their adherence to the cause of the profession, suffer exceptional financial hardship. The B.M.A. has guaranteed a sum of £100,000 to Fund A. The Trustees of the National Insurance Defence Trust will consider at their next meeting what their contribution to Fund B shall be.

Every member of the profession is urged to guarantee as substantial an amount as he can afford to Part B of the Fund. Normally this guarantee should be not less than £25, and it is hoped that in many cases it will be much more.

Until the Trustees so decide, the Fund will remain in the form of guarantees. If and when the Trustees deem it expedient, in the light of current events, the amounts so guaranteed, by individuals as well as bodies, will be called in and used at the Trustees' discretion in maintaining the interests and honour of the medical profession. Forms of guarantee will be circulated to the medical profession in the next few weeks.

ROCKEFELLER TRAVELLING FELLOWSHIPS

The Medical Research Council announces the resumption of the pre-war arrangement whereby it was enabled to award medical travelling fellowships generously provided by the Rockefeller Foundation of New York. For the current academic year the Council has awarded fellowships to the following:

Geoffrey Sharman Dawes, B.M., B.Ch., B.Sc., Department of Pharmacology, Oxford University.

John Louis Henderson, M.D., M.R.C.P.Ed., first assistant, Department of Child Life and Health, Edinburgh University.

Ronald Stanley Illingworth, M.D., M.R.C.P., D.P.H., D.C.H., late officer-in-charge of a Medical Division (lieut.-col., R.A.M.C.).

Richard Mayon Mayon-White, M.B., Physiological Laboratory, Armoured Fighting Vehicles School, Lulworth.

William Alexander Law, M.D., F.R.C.S., late officer-in-charge of a Surgical Division (lieut.-col., R.A.M.C.).

Nicholas Henry Martin, B.M., B.Ch., B.Sc., M.R.C.P., late assistant director of pathology, 21 Army Group and B.A.O.R. (lieut.-col., R.A.M.C.).

Robert Lawrence Richards, M.D., assistant physician, Neurovascular Unit, E.M.S. Hospital, Gogarburn, Edinburgh.

(Drs. Henderson and Illingworth were awarded fellowships in 1939, but were unable to take them up owing to the war.)

Reports of Societies

TUBOCURARINE CHLORIDE IN ANAESTHESIA

What was described as a "milestone in anaesthesia" was discussed at a crowded meeting of the Section of Anaesthetics of the Royal Society of Medicine (about 200 were present) on March 1, with Dr. GEORGE EDWARDS in the chair. Experiences with *d*-tubocurarine chloride were described by two Liverpool workers.

Dr. T. CECIL GRAY said that it was appropriate that in this centenary year of Morton's discovery another new advance, which might prove to be equally significant, should be under discussion. Curare was a poison used by South American savages, between the Amazon and the Orinoco, for smearing on their arrows and darts in hunting and war. The origin of this "flying death," made from certain plants with other deadly ingredients, such as the poison fangs of snakes, was surrounded by esoteric magic and superstition, and very little more was known about it now than when it was discovered in 1812 by Charles Waterton, who described it in his *Wanderings in South America*. In 1935 Harold King gave the name tubocurarine to an alkaloid isolated from crude curare, and later Prof. Mackintosh of Nebraska University prepared an extract of so-called standard potency. The compound *d*-tubocurarine chloride was used in this country from 1934 in the treatment of tetanus, and in 1942 Griffiths at the Homoeopathic Hospital, Montreal, first used the drug as an aid to anaesthesia.

The speaker's colleague, Dr. John Halton, had been using it at Liverpool since November, 1944, but it was not until April, 1945, that its possibilities began to be realized. The crystallized extract, prepared by Burroughs Wellcome, had proved to be of standard potency, but the pharmacology and exact nature of the drug were as mysterious as the preparation of the crude substance. Curare had no action when taken by the mouth; hence the safety of the native who ate his prey. On subcutaneous administration the action appeared within twenty minutes, and on intravenous administration within ten seconds, taking three to four minutes to reach the maximum. Having entered the circulation, it was in part changed by the liver and in part excreted unchanged by the kidneys. In the presence of renal damage of any extent an otherwise safe dose might cause considerable embarrassment. Recent work suggested that the substance prevented the action of acetylcholine, which was produced at the neuromuscular junction, and that this was the mechanism whereby relaxation was brought about. It depressed markedly the laryngeal and bronchial reflexes, preventing that bane of the anaesthetist, spasm. It had been said that it caused contraction of the gut, but experimental evidence in animals showed that the gut was placid and inactive. The present pharmacological opinion was that the liver and kidneys were completely unaffected. The action on the heart and cardiovascular system required a full investigation. So far as the work had gone tubocurarine chloride produced no effect on the electrocardiogram in the doses used clinically. He showed the electrocardiogram of a patient. Two minutes after the injection of 0.5 g. pentothal a slight effect was to be observed on the T-wave, but the subsequent administration of 20 mg. tubocurarine chloride had no further effect or perhaps even brought the T-wave back to normal.

Production of Relaxation

The compound when first received must be sterilized. It was autoclaved at 10 lb. (4.5 kg.) pressure for twenty to thirty minutes. On no account must moisture be allowed to enter during autoclaving. At first he had favoured a very dilute solution, but a concentrated solution, containing 10 mg. to the ml. of distilled water, was now used. The compound was not in itself an anaesthetic. It was used as an adjuvant in order to obtain good relaxation. For a short procedure, such as laryngeal intubation, 15 mg. was injected, with a moderate dose, say 0.5 g., of a quickly acting barbiturate. A dose of 20 mg. was sufficient to relax the average healthy adult abdomen; the very obese might require 24 mg. The effect of this initial dose would persist for a varying time up to forty minutes. There was some cumulative effect, and subsequent doses, if these were necessary, might be smaller. With old people an initial dose of 10 mg. was suitable.

With this compound a perfectly relaxed abdominal musculature was obtainable in a patient who was still able to respond to painful stimuli by movements of a limb. No untoward side-effects had been observed during administration. In the hands of a competent anaesthetist fully conversant with the trend of modern technique the drug was a safe one, and the results more than justified its use. The surgeon was presented with "perfect blotting-paper relaxation" at any time and quickly. Of his major cases—most of them abdominal—98% had their reflexes fully recovered at the end of the operation. After such operations as gastrectomy and cholecystectomy, patients had been able to carry out breathing exercises within half an hour of return to bed. Post-operative vomiting was lessened in quantity though not markedly in frequency. He believed that there were indications for the use of this drug in every abdominal case and in most thoracic cases. It was of special benefit with poor-risk patients.

Value in Thoracic Surgery

Dr. JOHN HALTON said that his own chief interest was in anaesthesia in relation to thoracic surgery, and it was in the course of his search for a perfect method that he was led to the use of *d*-tubocurarine. In October, 1943, he was using pentothal as the sole agent for the production of anaesthesia for thoracic work, finding the patient's recovery and the post-operative course much smoother. The use of pentothal, however, was accompanied by several disadvantages; cough and laryngeal spasm appeared with annoying frequency and sometimes led to an uncontrollable spill-over of secretion, which meant that the operation had to be postponed for that day. Moreover, each successive fractional dose, while it produced a little longer period of anaesthesia than the one before, did so at the cost of an ever-increasing length of recovery period. Later there came into his possession 100 mg. of tubocurarine chloride, of the pharmacological properties of which he was in complete ignorance, and he waited for what he judged to be clinically a suitable thoracic case. In that first case the operation lasted about one and a half hours, 1.1 g. of pentothal and 25 mg. of tubocurarine chloride were administered, and oxygen was supplied in a closed circuit throughout. He was amazed at the degree of control obtained, and the same procedure was followed in further cases with equally satisfactory results. It was not until the end of March, 1945, that he received regular supplies of the drug. The rapid induction because of the absence of spasm, and the quick recovery and trouble-free convalescence commended it to his surgical colleagues. One interesting fact was that there appeared to be a synergism between the barbiturates and the tubocurarine or between their combination and the inhalation agent. The drug itself was not an anaesthetic, and in smaller doses did not prevent movement. He gave 17.5 mg. to a conscious patient as a therapeutic measure in an attempt to cure a phantom tumour of the upper abdomen, which simulated exactly a pancreatic cyst. Some interesting facts were learned from that case, which was cured. When he gave 15 mg. of the drug and a dose of barbiturate less than that normally required to produce a motionless patient there was no reaction to painful stimuli. If any inhalation anaesthetic was administered to a patient who had already received a barbiturate and the tubocurarine an absolutely minimum amount was all that was necessary to take him to a deep plane, but whether it was correct to regard that as synergistic action the speaker was not prepared to argue.

Three Methods of Use

Dr. Halton proceeded to describe three main ways of using the compound. A mixture of 15 mg. tubocurarine chloride and 0.5 g. pentothal might be injected for such a procedure as oral endoscopy. The respiration after two or three minutes became very shallow, the jaw was completely relaxed, there was no spasm or cough when the airway was inserted, and the patient was able to tolerate straight away without distress an anaesthetic vapour strong enough to maintain the anaesthesia. The induction time was thus greatly shortened.

The next method was the use of tubocurarine chloride with intermittent barbiturate injection. This was their standard method of effecting anaesthesia. After induction small incre-

ments of 0.1 g. of the barbiturate and 2 to 4 mg. of the chloride were added at a time. If the length of the operation were such that too large a dose of the barbiturate might appear to be required the practice was to maintain a minimal amount of cyclopropane and ether. These patients showed surprisingly little alteration in the pulse rate, and even after severe abdominal operations were co-operative on return to the ward.

The third method was the intermittent fractional injection of between 15 and 30 mg. of tubocurarine during the course of ordinary inhalation anaesthesia. This was done to produce the necessary relaxation while still keeping the patient in a light plane. Whatever means was used oxygen must be supplied, preferably in a closed circuit. The drug was very rapidly eliminated. There was no evidence that it had any latent toxicity. The same held good for the barbiturates in the doses employed. Vomiting in thoracic cases was a thing of the past; in abdominal cases the incidence appeared unchanged, but the degree of severity was much lessened.

He and his colleague had given this compound in 1,040 cases. Among these, two deaths which might have been attributed to the anaesthetic had occurred. The post-mortem findings in each case showed gross myocardial damage, and this, coupled with a degree of anoxia, had probably terminated life. In the assessment of post-operative thoracic results there were many difficulties. Changed anaesthetic methods and operating techniques rendered the collection of comparative figures almost useless. With the advent of tubocurarine chloride more extensive surgery had been successfully practised in cases of the poor-risk type. Post-operative complications were very much lessened, and the bodily well-being of the patients after operation was improved beyond anything of which he had had previous experience and must be seen to be believed. This was a powerful drug and a safe drug, but it should never be used by anyone not fully conversant with the care of the apnoeic patient. Further, it should not be used in cases of extensive renal damage.

Surgeon's Testimony

Mr. C. A. WELLS said that much of this work had been done in his own department of surgery. He was sure that many people were alive to-day—patients who had survived operation—who would not have been alive or have had operation at all had it not been for this method as practised at Liverpool during the last eighteen months. The advantage in the theatre was the quick induction, the full degree of relaxation, and the very interesting warning when the anaesthetic had become a little light. There appeared to be a selective action: patients in whom the anaesthesia had become light were able to raise the knee on the table while the abdomen was still fully relaxed. When such a warning was received the anaesthesia could be deepened in a moment. On return to the ward the patients were rapidly co-operative. He had for many years believed that the end-results were facilitated very much by the patient's assistance in breathing, moving, and coughing, and these patients were able to give that assistance.

Dr. FREDERICK PRESCOTT said that in certain experiments with the drug he had found that a dose of 10 mg. intravenously had very little effect; a dose of 20 mg. paralysed the muscles of the arms, legs, and face, but had no great effect on the diaphragm; a dose of 30 mg. produced complete paralysis. This was the maximum which should be given at any one time. Experiments had also been carried out with a form of intramuscular drip, giving 1 mg. a minute; 30 mg. given in that way over half an hour had not very much effect, so that if this compound were used it should be given in a certain maximal dosage and given intravenously.

Dr. F. B. MALLINSON asked whether it was likely that soon the compound would be presented in solution. He also suggested that as this was a new drug it should not be assessed in terms of safety until the cases numbered 10,000. Deaths under chloroform anaesthesia numbered only 1 in 4,000. Dr. HARRIS asked for information about the use of the drug in genito-urinary operations. Dr. G. S. W. ORGANE spoke of the critical nature of the dose. A certain dose might produce very little obvious effect, but a slightly higher dose would produce more than was wanted. Dr. E. S. ROWBOTHAM had had an experience of 90 cases altogether. Some endeavour had been made to assess the dose in terms of body weight, and the figure of 2.5 mg. per stone (6.2 kg.) had been arrived at for the average case. Most of the operations were gastrectomies, and the anaesthetic result was satisfactory. Dr. C. L. HEWER mentioned the occurrence of ocular effects. Of 37 cases 19% had complained of blurring of vision lasting from a few hours to three days. The discussion was continued by Dr. A. H. GALLEY, Dr. M. D. NOSWORTHY, Dr. LOFTUS DALE, and Dr. J. W. TREVAN.

Dr. HALTON, in reply, said that the compound had been used in genito-urinary work provided that there was no definite evidence of extensive renal damage. He agreed as to the critical dosage and the narrow margin between under- and over-dose. This was a difficulty, especially in children. A warning was given when relaxation was becoming inadequate—namely, that it became a little more difficult to "aerate" the patient. Dr. GRAY said that no ocular residual symptoms had been observed in his series of cases. His attention had been called in a few cases to retention of urine, but it had always cleared up and was not considered a serious complication. In their abdominal patients they did not inject 30 mg. in a single dose.

Correspondence

Medical War Relief

SIR,—Three months have passed since the second appeal for subscriptions to the Medical War Relief Fund was published in the *Journal*. At that time the balance in the Fund was only £25,000, and it was stated that the sum of £100,000 was likely to be required during the next year.

The committee of the Fund is grateful to those who have responded promptly to the appeal; but they are only a small minority of the profession, and the total of their generous contributions, amounting to some £10,000, falls far short of the "target." As was expected three months ago, the number of applications for assistance has continued, and still continues, to increase. At the present time more money is being paid out than is coming in. The declining balance in the Fund must be greatly reinforced if the committee, in dealing with the many deserving cases which come before it, is to be able to provide really effective help without anxiety as to the claims of future applicants being prejudiced.

The objects of the Fund—the assistance of our professional colleagues who are temporarily in financial straits as a direct result of the war, and of the widows and children of those who gave their lives—cannot fail to command the sympathy of every medical practitioner. Will those who have overlooked the need please give their assistance now, either by responding to any local appeals received from their Panel Committees or B.M.A. Divisions or by sending their cheques (payable to the Medical War Relief Fund) to the honorary treasurer of the Fund at B.M.A. House, Tavistock Square, W.C.1. He gives twice who gives promptly. Generous help is needed, and it is needed *now*.—I am, etc.,

H. GUY DAIN,
Chairman, Medical War Relief Fund.

Thiouracil in Hyperthyroidism

SIR,—Since reading your leading article on "Thiouracil in Hyperthyroidism" (Dec. 18, 1943, p. 783) I have been working on this problem with my associates Drs. Tarrida and Castello. We believed, and we soon confirmed, that the theories put forward by the MacKenzies and E. B. Astwood are not sufficient to explain all the phenomena occurring in connexion with the use of thio-compounds. In our experience there does not elapse any so-called "delay or latent period," as contended by them, before the drug acts positively on the patient. Though it is true that in clinical experience some time does elapse, this does not mean that from a physio-pathological standpoint the drug fails to act right away. Since we have been able to show that the drug acts *immediately*, and modifies the vegetative rates, especially the basal metabolic rate, we consider it no longer logical to explain its action as pending histochemical changes in the thyroid gland, and a subsequent drop of the blood thyroxine level. The drug begins to work before all this can possibly take place, and the "latent or delay period" does not exist. This can be demonstrated quite simply. Measure the basal metabolic rate of anybody, then administer a small

dose of any thio-compound whatever, and measure again the basal metabolic rate half an hour later if the dose was given orally, or a few minutes later if it was injected. In most cases a metabolic drop is observed, the extent of which varies considerably but is generally significant. If the basal metabolic rate determination is repeated often enough, a graph can be made of the corresponding figures, in a way similar to that of glucose tests (this is by no means a hint that there exists any connexion between them, although it might be argued that in both cases we seem to deal with a biological system of agonists and antagonists). In a small number of cases an inverted, or reverse, effect is noted—i.e., a rise in the basal metabolic rate over and above the initial level. This is exceptional, yet we feel that this phenomenon, together with the rapid response, may suggest the intervention of some vegetative link.

Generally speaking, the hyperthyroid's metabolism drops most, that of normal people drops less, and the hypothyroid's least of all. Patients with neuro-vegetative instability show the most marked variations; this is to be expected.

When we observed that small doses—even smaller than those commonly used in daily treatment—were sufficient to determine ample drops in the basal metabolic rate, we deemed it worth while trying these new drugs in small doses in the treatment of our hyperthyroid patients. Results were satisfactory in a series of 23 such patients, who received total daily doses of 0.25 to 0.60 g. thiourea, or 0.07 to 0.15 g. methylthiouracil in fractioned quantities. No disturbances of the digestive tract, no hypersensitivity, and no toxic troubles were observed, and the results were as satisfactory as those with far larger doses usually employed elsewhere. Permanent stabilization of basal metabolic rates at normal figures was obtained usually after four to six weeks' treatment. Patients felt better from the end of the first week or even before. None of them showed hypothyroidism.

An alteration of carbohydrate metabolism of apparent diabetic type was favourably controlled in one case, the glycaemic type of curve being brought back to normal. Two cases showed complete arrhythmia: in one of them normal rhythm was restored, whereas the other one, which had lasted for years, could not be controlled. In no case did the goitre increase; on the contrary, it became smaller, or even totally disappeared. This is, in our opinion, one of our most noteworthy observations, together with the absolute lack of digestive troubles, of the type referred to by our colleagues on applying the usual doses of thiourea, and which affected, according to their statement, up to 25 to 33% of their cases.

Whilst, according to the MacKenzies and Astwood, the drug interferes with the thyroid hormone production in the thyroid gland, it may be that it also immediately interferes with the action of thyroxine on tissues, which would explain the rapid response. Only further research will clear up this most interesting point.

The demonstration of the immediate action of the drug was based on observations carried out on more than 100 patients, among whom there were cases of hyperthyroidism, endocrine disturbances of other types, cases of general illness, and also healthy people. The number of basal metabolic rate determinations done is over 500. These results were addressed on two different occasions to the *Asociación de Endocrinología y Nutrición* at the Academy of Medical Sciences, in the first instance on June 11, 1945, under the title "Revisión de las teorías actuales sobre el mecanismo de actuación de los sulfoconjugados a la luz de experiencias propias." They were confirmed in the *Instituto de Investigaciones Medicas* at the School of Medicine, and in the Institute of Pharmacology, and various colleagues have also checked personally, in their private experience, the rapid action of thio-compounds.—I am, etc.,

Faculty of Medicine, Barcelona. CHRISTIAN DE NOGALES.

Treatment of Amoebiasis

SIR,—I imagine that more authoritative voices than mine will have been raised in protest against the astonishingly ill-informed letter of Dr. E. Snell (Jan. 12, p. 68) on the subject of the treatment of amoebic dysentery.

In the face of all current medical opinion he states that a course of 10 gr. (0.65 g.) of emetine should be given. It cannot be too often emphasized that for the dysenteric types of amoebiasis two, or at most three, injections of emetine are sufficient. If Dr. Snell had ever gone so far as to check up on the progress of dysenteric patients with the sigmoidoscope he would have realized the great speed with which the ulceration is healed by emetine injections. To inflict an extra unnecessary week of injections of this dangerous drug is a gross imposition on patients. If he still insists on giving a long course of emetine (which, indeed, is necessary only in amoeboma or in chronic infections of liver or lung) dare we hope that he keeps his patients in bed for at least a further week after the injections have ceased, and that he scales the dosage of emetine down for lightweight patients? Dr. Snell apparently rejects entirely the recent improvements represented by the introduction of diodoquin and penicillin.

Finally, may one suggest to Dr. Snell the use of the sigmoidoscope as a diagnostic measure as well as a test of cure, and point out that if he looks only for *ulcers* (as his letter suggests) he will be missing at least 80% of infections.—I am, etc.,

C. F. J. CROPPER,
Major, I.A.M.C.

Rawalpindi.

Cardiac Beriberi

SIR,—When I was a student I recollect being told that the surest way to get propelled from an examination room by *vis a tergo* was to make a diagnosis of beriberi. Time has brought us round in a full cycle, and now, judging from recent articles, it must be essential to make that diagnosis in order to stay in the room.

It appears that if any patient with heart disease is put to bed and given large doses of thiamine he will quietly get better or quietly die. In the first instance this is diagnostic of beriberi and in the second diagnostic of resistant beriberi. Here is a great advance in cardiology. Neurology has also progressed, for it is now known that any neuritic pain if treated with very large doses of thiamine for a long time will disappear or persist. Obviously, therefore, it must be due to a B_1 deficiency of either the curable or incurable type, and I see the followers of Withering and Bright are making similar profound discoveries in regard to dropsy.

These remarks are called for by a recent article in the *Journal* (Feb. 23, p. 273) in which an *x*-ray photograph is shown of an enlarged heart in an anaemic girl which has no resemblance to the heart in beriberi, and yet was diagnosed as such because the patient recovered in spite of injections of thiamine. Drowned in the depths of a meaningless past is the memory of those stout little girls—housemaids, wardmaids, and probationer nurses—with chlorosis who continued their hard work until finally, pale, tired, and with dilated hearts, they came to see the doctor because their output of work was falling.

In true cardiac beriberi the response to an adequate injection of thiamine is one of the most dramatic reactions seen in medicine, the patient usually feeling the effect in a few minutes, while it is objectively demonstrable in a couple of hours and obvious to the most casual observer in a day. Therefore in thiamine we have a most valuable aid to diagnosis, for if no result is seen in a day then the diagnosis of cardiac beriberi is either wrong or incomplete: frequently incomplete, for beriberi can complicate any heart lesion as well as the dilatation so common in anaemia, whatever the cause. This dilatation in those doing hard physical work seemed to cause my students more difficulty in their differential diagnosis than any other cardiac disorders, but any doubt can be quickly resolved by a therapeutic test.—I am, etc.,

London, S.W.1. R. BRUNEL HAWES.

Effect of Blast on the Ear

SIR,—The letter of Lieut.-Col. J. F. Birrell (Feb. 23, p. 292) calls for further comment. His communication brings up three points: the lack of equipment of the British Army otologist, the impracticability of reviewing soldiers exposed to blast effects, and the impossibility of examining men under 40 years of age prior to their discharge from the Army.

I knew that my British colleagues were handicapped in the accurate assessment of their hearing tests in the two theatres of war in which I served—the Middle East and the Central Mediterranean Commands—but I am astounded to learn that such a state exists in the United Kingdom,

where one would expect to find facilities for full investigations. It would appear that a systematic study of blast deafness has not been attempted by a research unit of the R.A.M.C., apart from the efforts of individual otologists, who, however, can do little by themselves while on active service. This contrasts unfavourably with the useful otological research which has been conducted with energy by the E.N.T. staff of the Central Medical Establishment of the Royal Air Force. Surely our electrical engineers, who have done so much in other fields, would be able to construct, and calibrate, a suitable audiometer, obviating the necessity for importing these instruments from the U.S.A.? In a recent discussion at the Royal Society of Medicine Mr. Daggitt mentioned that an instrument had been made for him by R.E.M.E. from disused radio parts. Not only is such a procedure practical, but the cost of construction should not be prohibitive.

Under present conditions I agree that it would not be possible for otologists on active service, and in this country, to carry out the investigations suggested in the two groups of men, but this negative attitude is no excuse for a failure to do so should the necessity arise at a future date. A reorganization of the otological services would be called for, necessitating adequate equipment and staff. In my opinion it is not necessary to have an otologist as the audiometrician. I myself trained two orderlies—highly intelligent young men—in the use of this instrument, and when I was satisfied with their proficiency they carried out these investigations, referring any difficult cases, such as those with possible psychological exaggeration, to me. This saved an enormous amount of time. It should not be impossible to find other suitable men to train for this work. A view which I hold strongly is the need for the establishment of a school of audiometry, with the power to issue a certificate of proficiency in this part of our work. These trained audiometricians would be of invaluable assistance to the busy otologist in civilian as well as in wartime practice. On the clinical side, an excellent opportunity for becoming familiar with normal and abnormal otoscopical appearances would be afforded to young doctors who would be attached to the E.N.T. specialist as E.N.T. "trainees." Any difficulties encountered would be referred to the trained specialist. Such a scheme should not be difficult or impracticable to organize in time of war.

As a matter of personal opinion, I feel that men with traumatic deafness should not be returned to the line, and I consider that it is the duty of the otologist to protect his patient from possible preventable deafness. When this was explained in a straightforward way to my patients I had no difficulty in convincing these men that it was in their best interests that they be graded for base duties only, despite their desire to return to their old units. We all know the old adage, "Prevention is better than cure." How much better is it, then, when there is no cure, as in the case of some patients with high-grade nerve deafness?

In conclusion, I submit, Sir, that it is not impracticable to carry out the procedures I have suggested in the future.—I am, etc.,

F. BOYES KORKIS,
E.N.T. Specialist, 2 N.Z.E.F.

London, W.8.

Loss of Vision following Haemorrhage

SIR,—None of your correspondents has stressed the fact that in order to produce this condition it is almost essential for the haemorrhage to be a recurrent one. Hence the reason why, although thousands of all ages were bled white, so few cases have been recorded in the two great wars.

In the old days *repeated* blood-letting was a well-known cause of this type of blindness, and Molière, with his usual cynicism towards the medical profession, tells the story of a young man who, for some trifling malaise, was bled time and again. Eventually the young man complained that his sight was getting misty. The "fool doctor," however, persisted, repeated the performance, and the young man went quite blind.

Another point of interest is that the patient may say that the black-out (like the curtain of the ancient Roman theatre) came from below upwards. In after-years eliciting this history may, in a case of obscure optic atrophy, be of diagnostic importance.—I am, etc.,

EUGENE WOLFF.

London, W.1.

Third-generation Syphilis

SIR,—I note in the *Journal* of Oct. 27, 1945 (p. 585), which has just reached me, that Dr. C. C. Wedderburn points out that the case of third-generation syphilis I reported in the *Journal* of Aug. 11 is lacking in conclusive evidence. That the mother herself is a congenital syphilitic can be concluded from the fact that she denies any extramarital intercourse; and I think one must accept her word for that. Should this, however, not be acceptable as evidence one must consider the time of possible infection. The elder daughter shows no signs of congenital syphilis, so it is reasonable to assume that it was after her birth. If this were so, and we accept the mother's statement that she has not had any antisyphilitic treatment, would not one expect to find some signs of congenital syphilis in the youngest child, who, in fact, shows no signs?

Dr. Wedderburn also mentions the fact that the mother's present age was not included in the report. I cannot see that this is relevant, but it is 40.—I am, etc.,

C. J. V. HELLIWELL,
Surg. Lieut., R.N.V.R.

Singapore

Acute Pancreatitis

SIR,—I was much interested in Mr. Norman Godfrey's article on acute pancreatitis (Feb. 9, p. 203). This condition is associated with a very high mortality (50%), and is notorious for the fact that in most cases the abdomen is opened for some other condition. Surgical treatment usually consists of a laparotomy with drainage of the abdominal cavity or lesser sac and with or without cholecystotomy. The following case will, I think, be of interest as the result suggests that a more conservative method of treatment might be associated with an appreciable lowering of the mortality rate.

A married woman aged 34, a Gibraltarian refugee, was admitted to the E.M.S. Hospital, Barkingside, at 1.30 p.m. on Feb. 19, 1941, complaining of severe abdominal pain which had started 7 days previously but had considerably worsened during the two days prior to admission. The pain was of a spasmodic nature and situated chiefly in the upper abdomen, although sometimes referred to the interscapular region. She had had no bowel action for a week and had vomited several times in the previous three days. Two enemata were given, without result, in the two days before admission. There was nothing relevant in the medical history except a few mild attacks of colicky epigastric pain during the previous two years, following an attack of jaundice at Gibraltar.

Examination on admission showed a very obese, nervous woman, slightly cyanotic and dehydrated with a dry, furred tongue; central distension of the abdomen with visible peristalsis; marked tenderness in epigastrium, right hypochondrium, and right iliac fossa; there was guarding of both recti but no rigidity. B.P. 135/75; T. 100°; P. 100; R. 24. Enemata were given, without result, and diagnosis of intestinal obstruction due to gall-stones was made, the cyanosis being attributed to respiratory difficulty resulting from the marked abdominal distension and general obese condition of the patient.

Morphine 1/6 gr. (11 mg.) was given and gastric lavage with a Ryle's tube started immediately, while an intravenous glucose-saline drip was set up. An exploratory laparotomy was carried out through a right paramedian incision at 8 p.m. on Feb. 19 under gas, oxygen, and ether anaesthesia. The presence of fatty necrosis and blood-stained fluid in the peritoneal cavity left no doubt as to the diagnosis of acute pancreatitis, which was further confirmed by the gush of blood-stained fluid that escaped when a finger was passed through the foramen of Winslow into the lesser sac. The pancreas was felt to be hard and swollen, while the gall-bladder was pale, distended, and contained stones. Some fluid was removed from the abdomen by a sucker, but as the patient was now practically moribund the abdomen was rapidly closed without drainage. The whole procedure took about 15 minutes and the patient, after being given an injection of 1 ml. of nikethamide, was returned to the ward. A grave prognosis was given to the patient's relatives. As a somewhat forlorn hope soluble prontosil was added to the intravenous glucose-saline solution which she was receiving, and by 10 a.m. the following morning, Feb. 20, she had had 10 ampoules of prontosil and her general condition was greatly improved. Being now able to take fluids she was put on a course of sulphapyridine, and 36 hours after the operation, to everyone's surprise, she was looking very much better and beginning to take notice; after which, except for a slight daily rise of temperature until the fifth day, she made an uneventful recovery, getting up on March 10 and being discharged on March 21. She had altogether 23 g. of sulphapyridine. The diastatic index of urine on Feb. 20 was 500 units.

Six months later cholecystectomy was performed and a number of stones of mixed type removed. No trace of the preceding pancreatitis was seen during this operation and the pancreas felt quite normal. This case was followed up, and when the patient was last seen, on June 9, 1943, she was perfectly fit and gaining weight.

It seems to me that the recovery in this severe case of acute pancreatitis cannot unreasonably be ascribed to sulphonamide therapy, as the operation consisted merely of opening and closing the abdomen, without drainage and without removing much of the fluid contents. This case strongly supports the infective theory of the causation of acute pancreatitis, and it is tempting to suggest that in future the use of penicillin in this condition may have a considerable effect in reducing its high mortality.—I am, etc.,

Ronkswood Hospital, Worcester. HIREN DE.

Overdose of Ephedrine

SIR,—I think the following case may be of interest, and perhaps some of your readers may be able to give me some information on the subject.

A woman patient of mine of long standing took a large amount of ephedrine suicidally. She was a chronic asthmatic, and fortunately had nothing more toxic to hand. She had been through an emotional disturbance and took this hoping that it would stop her heart. I cannot be sure how much she took. She thinks it was "about 40" 1/2-grain (32-mg.) tablets. In my experience the numbers taken are apt to be exaggerated, but it is certain that she took much more than the proper single dose. I saw her an hour afterwards, and she was comfortable, complained of nothing but nausea (she had had mustard and water and black coffee), and she had no urgent symptoms. Her pulse was 108, of fairly good volume, respirations normal, colour normal, and the only obvious abnormality was dilatation and fixation of both pupils. I could find no record of poisoning by adrenaline or ephedrine. My edition of *Martindale* says of ephedrine hydrochloride: "1 gr. [65 mg.] has been known to produce toxic phenomena"; while of ephedrine sulphate it says: "Maximum daily dose said to be 4½ gr. [292 mg.]." This patient thinks she must have taken about 20 gr. (1.3 g.). She must have taken much more than 4½ gr. anyhow.

I stayed in the house from 10.35 a.m. till 2 p.m., during which time she vomited twice, bringing up a quantity of coffee-coloured fluid. As there were no urgent symptoms I adopted an expectant attitude. I did not wash out the stomach, and when I left she was comfortable, and the only abnormality was the dilated pupils not reacting to light or accommodation, though she said she could see normally, and she was able to count fingers correctly. I met her husband next day, and he said she was completely recovered.

It would be interesting to know if there are any other records of overdosage with ephedrine, and if so what effects were observed and what antidotes should be used. I presume that gastric lavage and vasodilators would be indicated. But I was anxious to avoid a stomach tube in this case, if possible, from my knowledge of the patient, and it actually proved to be unnecessary. While no urgent symptoms of any kind occurred, one might, I suppose, expect marked cardiac depression following over-stimulation, but this does not seem to have happened. —I am, etc.,

Nanyuki, Kenya Colony. G. DUNDERDALE.

Overdose of Pethidine

SIR,—This description of what would appear to be a case of pethidine overdose may be of interest.

A male patient, employed as a company secretary, aged 53 years, who suffered from regional ileitis was told to take two tablets of pethidine every four hours for its relief. On Dec. 28, 1945, he took a first dose, and by Jan. 1, 1946, he had taken a total of 36 tablets. On that evening he had what he described as a "brutal" headache and went to bed, his only other complaint being that he felt sweaty. His temperature was normal and he slept well. On Jan. 2 he still had a headache, but he went to work. I saw him at 11 a.m., complaining of headache and feeling sweaty. His temperature and pulse rate were normal, and a blood slide was negative for malaria parasites.

He drove home to luncheon as usual, and had actually started his meal when he was overcome with a prickly sensation all over his body, head, and limbs. He went into the next room, and a minute or two later he had an attack of amblyopia, which lasted a minute or two. His wife, who was with him, saw him go "very white and then very purple." On recovering his sight he went to lie down. He had a sensation of "pins and needles" across his chest and in his feet and hands. I saw him half an hour later and found him a brilliant boiled lobster colour all over. He complained of irritation in the parts previously affected with "pins and needles." His temperature and pulse rate were normal. He showed rapid improvement after the subcutaneous injection of 1 in 1,000 adrenaline 10 m. (0.6 ml.). Three hours later he was quite normal.

—I am, etc.,

Nairobi. J. R. GREGORY.

Non-absorption of Mepacrine

SIR,—I have seen tablets of atebrin passed apparently unchanged in the stools. The patient was a Tamil woman and admittedly had slight diarrhoea, but it would be interesting to know whether the frequency of such an occurrence has been investigated, and whether it might have been the cause of non-absorption of mepacrine in Dr. John Yudkin's case (Feb. 23, p. 271). It has been my custom to prescribe mepacrine tablets crushed.—I am, etc.,

Tunbridge Wells. J. G. REED.

Homosexuality

SIR,—Like many of your correspondents, I was moved to something like indignation over the case in which the repetition of a moral offence led to a sentence of fourteen years' penal servitude. A simple reaction would be to say that our law is out of date and that the sentence is comparable with the old custom of confining a lunatic with chains. Yet, we may ask, is not medicine also a little out of date, and are we not in addition rather led by prejudice in our attitude to sexual aberration?

All will agree that the public must be protected, and many will feel that the offender, too, ought to be guarded against his own abnormality. Sometimes a psychiatrist may perhaps achieve a permanent cure of homosexuality provided that the patient himself is willing to co-operate with sufficient determination. But there will be a residue of these subjects for whom psychology is not a therapeutic foundation on which we can securely rest. Besides such aetiological factors as an unfortunate early environment or chance coincidences in the past, we have to consider the hormones on which our sexual psychology is largely based. A research into this matter is surely desirable. Meanwhile the worst case possible can be easily cured by castration. In this way we can certainly protect both the public and the patient, at the same time inflicting on the latter a minimum of hardship. This admirable remedy is at present disregarded merely because both medicine and law remain ignorant and prejudiced against its advantages when put to a proper therapeutic use.—I am, etc.,

Marlborough. HAROLD BURROWS.

SIR,—One can agree with your correspondents that imprisonment, for first offenders at any rate, is not helpful treatment for the homosexual or his victim. The latter's interests and those of the public are best served by a cure of the homosexual, if this is possible.

I think your correspondents forget the severity of the law in dealing with other habitual offenders against society. The burglar or housebreaker who is caught loitering on or near enclosed premises with intent—that is, with a jemmy or other tools of the burglar's trade in his possession—is severely dealt with by the stipendiary, though no crime has been committed.

Do other experts agree with the opinion of Dr. E. A. Bennet, expressed in his letter (Feb. 23, p. 289), that the homosexual's victim suffers little from his experience? This is hard to believe, but comforting if true.

Is the severity of the law and its officers in these cases not due to an old but dying tradition—the necessity for stamping out rigorously all abnormal sexual practices which prevent the true function of sex—i.e., the procreation of the race? History shows terrible examples of the fate of peoples who blinded themselves to this truth. Agreed that it is an anachronism that it should survive in the criminal court, in these days of widespread sexual promiscuity in the youth of both sexes, easy divorce by the law, etc.

In the particular example quoted in recent letters a scoutmaster was prosecuted. He had had two previous convictions for homosexual crimes. Surely some discretion and common sense should be used in the appointment of officers in control

of youth organizations of both sexes. The very acceptance by this individual of a position as scoutmaster puts him on the same plane as the burglar "with intent." He knew that his position of trust, honour, and responsibility gave him scope for his vice—for ugly vice it is to me, and many others, whatever the view of experts.—I am, etc.,

Batley, Yorks. JOHN J. FITZPATRICK.

SIR,—The writers of the letters on homosexuality exhibit the same type of mental process as those who sign reprieve petitions for murderers—i.e., infinite pity for the criminal, and little, if any, for the victim. It is pertinent to inquire if Dr. E. A. Bennet has any sons of his own; and if they had been "unfortunate enough to have been on terms of sexual intimacy with a homosexual man" would he show the same complacency that he does with regard to other people's children? How does Dr. Bennet know that the victims of homosexual practice suffer no psychological trauma? The revolting statement that "there are other factors in such relationships; and that sexual activity may play a minor part in a friendship which often has in it much of value," is just obscene balderdash.

The British public has cause for gratitude that buggers—I prefer the Biblical name—frequently receive the sentence they deserve at the hands of a judiciary that places importance on the protection of young people's morals; and it is comforting to know that the boys of Edinburgh are safe for fourteen years from the salacious attacks of at least one of these perverts. The late Sir Horace Avory is reported to have said that it would be a bad day for this country when the administration of justice is handed over to gentlemen from Harley Street. His Lordship must have been a student of the correspondence columns of the *B.M.J.*—I am, etc.,

Leamington Spa. W. LUMLEY.

Homosexuality and the Law

SIR,—The medico-legal aspect of homosexuality is once more arousing medical interest, and surely it is high time that some modification of the existing law was made in respect of homosexual offenders. Much has been written on the subject, but unfortunately its value tends to be lessened by the divergence of views expressed as to its causation and, more important, its treatment. These views are determined not only by the facts but by the bias of the observer. No considered opinion can surely be given on the question of punishment for homosexual offences until there is more clarification of the two important aspects of aetiology and treatment.

Regarding aetiology, certain general observations may be made. As in other forms of instability, there are constitutional and environmental factors, the weighting of which is often difficult to arrive at as they tend to be interdependent, early environmental difficulties so often being due to instability in the parents. However this may be, there is always some disturbance of the normal child–parent relationship, with, in the case of males, an over-attachment to the mother. This has been interpreted in various ways, such as the Oedipus complex of Freud; but, whatever its interpretation, it is almost always present. Indeed, Magnus Hirschfield, who admits no particular psychiatric allegiance and who has probably had greater experience of homosexuals than any other authority, states that he has not seen a case of male homosexuality where there was not this emotional overdependence on the mother. A corresponding estrangement in the father relationship is nearly always present—the harsh, cruel, disinterested, emotionally inhibited, or drunken father frequently figuring in case histories. These clinical facts, whatever their interpretation, are easily verifiable by anyone who has taken case histories of male homosexuals. There are frequently other indications of instability in the homosexual: either he tends to break society or society tends to break him, resulting respectively in psychopathy or in neurosis. In the latter case the homosexual urge tends to remain repressed and therefore unrecognized, and the neurosis is the result of an underlying emotional conflict. Although complete emotional development leads to heterosexuality, this is an ideal which is probably achieved less often than is popularly supposed, and unrecognized and therefore inadequately-dealt-with homosexual tendencies are present in many people. They may result, for instance, in impotence, alcoholism, Don Juanism, and may even determine the choice of occupation.

Seeing that homosexuality may be constitutionally and environmentally determined, what is the position when the question of punishment arises? It may be held that, as a heterosexual is liable to punishment if he fails to control his sexual urges, so, too, should be the homosexual. There is, however, this important difference: that, whereas the normal person has some outlet for his sexual impulses, these are not available to the homosexual. No doubt the public interest demands some form of deterrent, but, in considering this, due attention should be paid to causation and the possibility of treatment. Psychiatric opinion differs as to the efficacy of the latter, and certain it is that, unless treatment is genuinely sought—and often it is not—it is likely to be a waste of time on the part of all concerned. Even in those seeking treatment it is unlikely that anything short of a time-consuming reductive analysis will be effective. Probably the best solution would be a period of preventive detention in a special institution for sexual inverts. Here could be concentrated such specialized treatment as is available, and some of the newer and more progressive methods involving groups could be tried out. At any rate, such an institution would provide material for intensive research, and from this it is hoped a better solution of this social problem might emerge.—I am, etc.,

Shenley. B. C. GILSENAN.

Homosexuality or Sodomy

SIR,—I was called by the prosecution at the Dorchester Assizes in the early years of this century for a case of this foul disease. The case came under a new indictment following the Oscar Wilde case. The utmost penalty involved was two years' hard labour. Actually the man received a sentence of three months. Why has this indictment been altered? Incidentally the charge was for "the dreadful crime of buggery." According to the teaching of the late Sir Thomas Stevenson the indictment was wrong: it should have been "sodomy" as applied man to man; "buggery" man to beast. To my mind "sodomy" (a good old English word) is far preferable to "homosexuality." Reference to Taylor's *Medical Jurisprudence* will find the meticulous care of the distinction of the above two words.—I am, etc.,

Bournemouth. C. EDWARDS.

Physical Therapy in Mental Disorder

SIR,—There is much good sense in Dr. T. H. B. Gladstone's letter (Feb. 2, p. 179), but his wisdom is vitiated by so many illogical conclusions that his contribution can serve only to increase still further the difficulty of arriving at a balanced judgment on this complex question.

Let us at once concede many of Dr. Gladstone's points. Electro-convulsive therapy and prefrontal leucotomy are relatively new methods, frankly empirical, with after-effects which are not yet completely known; already they have been applied injudiciously by a certain number of under-experienced or over-enthusiastic practitioners. The same can now be said of much gastric surgery in the 'twenties, and of the more recent indiscriminate use of the sulphonamides. (Incidentally, which of these tragedies has been relatively the more frequent: fatal agranulocytosis through the injudicious use of the sulphonamides, or the crippling of potentially creative genius through misguided leucotomy?) On the credit side it is indisputable that a large number of chronic mental hospital patients have by now been relieved of horrible and hopeless distress and restored to some measure of social efficiency through the use of these particular methods, empirical as they may be.

What alternative does Dr. Gladstone advocate? He admits that full use is not being made of psychological methods in most mental hospitals, and himself supplies the reason. It is not due to negligence or ignorance on the part of the medical staffs; the total number of available psychotherapists, of whatever degree of competence or energy, is quite inadequate to deal with the volume of patients who need help of some sort, even if we allow that a purely psychological technique is useful, or even applicable, in all these cases. The assumption would by no means be conceded by all experienced psychologists (*vide* Dr. H. Crichton-Miller, Jan. 19, p. 103). While awaiting the

desired recruits to their ranks are the existing psychiatrists to do their rounds, as Dr. Frank (p. 104) says, "in an awestruck trance," animated only by the tenuous hope of detecting an occasional Tolstoy or Picasso emerging from his chrysalis of obstinate melancholia or paranoid schizophrenia? Or are they to devote their time to the intensive psychotherapy of 10% of their patients and ignore the 90% remaining under their care?

The methods of E.C.T. and prefrontal leucotomy cannot be dropped out of hand at the bidding of prejudice. Their legitimate sphere can be delimited only on the results of conscientious trial and careful observation by the numerous skilled clinicians who are now doing their best to evaluate them. Included among these observers are many reputable surgeons, as well as clinical psychiatrists of proved reliability.

For this reason I shall welcome the publication of Dr. Frank's 230 leucotomy results, and shall be surprised indeed if his series reveals even one possibility of a creative genius having had his frontal lobes mutilated during a "short mental illness." An ill wind has swept Europe of late years, but British psychiatrists may well feel that good has come to us from the presence of Dr. Jan Frank as an active worker in our ranks. Those who know of his past training and personal philosophy rest satisfied that his clinical judgment is informed by long experience, deep study, and broad humanity, and I am confident that at all events none of his patients has been subjected to ill-considered or excessive use of the electric switch or the leucotome.

"Far too often the mental hospital doctor is below the level of many of his patients in general culture and intelligence" is an opinion frequently expressed by the patients, but, coming from Dr. Gladstone, the assertion seems so extravagant that one feels it could do no mischief did not one know the present tendency of the popular press.—I am, etc.,

London, S.W.1. H. N. BRADBROOKE.

SIR,—As a very junior A.M.O., a mere doorkeeper in the house of the Spanish Inquisition, it would be presumptuous, even were it not futile, to quote the literature refuting Dr. Learoyd's moving appeal (Feb. 16, p. 251) for liberty of the individual. I have seen agitated melancholics and depressives suffering indescribable mental agony and begging for death transformed in a few days into happy human beings, when formerly their suffering lasted for months, as shown by their old case notes. Against this it is hard to balance hours, even of "fear and dread."

With chronic schizophrenics, still unfortunately as incurable as the majority of medical complaints, the problem is admittedly less clear. True some are enabled to go home for occasional visits of several days, but is this justification for forcibly transforming them from crouching impulsive beings, liable to smash all the windows or their fellow-patients, and coming on the scene can one with a clear conscience forcibly stitch up their gaping wounds? To drug them would be unthinkable, and, alas, one is no longer permitted to chain them to the walls. In locking them up at all grave fundamental issues are raised. I appeal to Dr. Learoyd for further guidance on these delicate and perplexing matters.—I am, etc.,

Netherne Hospital, Coulsdon. J. A. SINDELL.

"Leucotomy"

SIR,—I think there must be many readers of the *Journal* who, like myself, would be very interested to have a clear description of this new operation styled "leucotomy," and a full explanation of its purpose and an account of its after-effects. I have attempted to get some information from medical colleagues, but find they can tell me very little.

In Dr. Reitman's article (Feb. 16, p. 235) one section presents several words of which I confess to being quite ignorant; but I have a comforting feeling that there are many others in a like predicament. Thus we have "dysmetria," "astereognosis," "apraxia," and "perseveration." None of these is to be found in the *Concise Oxford Dictionary*. "Ataxia" is to be found, but not "apraxia." One can guess fairly well at "perseveration," but would think a simple and plainer word, to be found in any dictionary, might have sufficed. "Negativist" is a dictionary word: not so "negativistic." "Hallucinated" is, to me at least, an awkward-sounding word, but we have to admit that the dictionary does allow the verb "hallucinate." Presumably all the other words have been coined for use in the new science or art of psychiatry, which seems to be acquiring almost an esoteric quality. If so, then let us have a special dictionary to which we may turn for information. But strangest of all is the word "leucotomy" itself. Most "tomies" are self-explanatory, such as "gastrotomy," "nephrotomy," etc., but "cutting the white" is anything but self-explanatory. "White what?" one naturally asks.

It seems a severe operation to attempt on purely empirical grounds. As to possible after-effects, one is struck by the shortness of the time that often elapses between the operation and the discharge of the patient. Surely all these cases need the most careful "follow-up" for years.—I am, etc.,

Tunbridge Wells. E. WEATHERHEAD.

⁂ A *Dictionary of Psychology*, edited by Howard C. Warren, of Princeton University, was published in this country in 1935 by George Allen and Unwin, Ltd. It contains some, but not all, of the words noted by Dr. Weatherhead. "Leucotomy" had not then been coined. This is defined in *Dorland's Medical Dictionary* as the operation of cutting the white matter in the oval centre of the frontal lobe of the brain.—ED., *B.M.J.*

Effect on Troops of the "V" Weapon Bombardment of Antwerp

SIR,—By a curious coincidence, the first patient I saw after reading Capt. A. G. Freeman's "Effect on Troops of the 'V' Weapon Bombardment of Antwerp" (Jan. 12, p. 58) presented a similar picture to that described. In response to my semi-facetious query, "Have you ever been to Antwerp?" I was somewhat taken aback at receiving an affirmative (as well as gratified by his obvious respect for my clinical acumen). Capt. Freeman may be interested to hear the later history of this case, eight months after removal of the exciting cause.

The patient is an N.C.O. in the R.A.S.C., aged 23 years, with 3¼ years' service, who had landed in France in June, 1944, and had been well up in forward areas, with only occasional rests, until cessation of hostilities. He has been in West Africa for three months.

He is now complaining of a feeling of "flatness," and is slack and listless during the day and excessively tired in the evenings. He is nervous and "jumpy," is particularly affected by sudden noises, and sleeps badly, tending to wake and remain awake in the small hours of the morning. As an example, he mentioned that on one occasion he had retired early and was asleep when his room-mate entered, slamming the door noisily. He awoke in an acute state of fear and was unable to get to sleep again that night. He suffers from frontal headaches, boring through to back of head, and not substantially relieved by large doses of aspirin. The tremor of his hands is such that he avoids lighting a cigarette in public for fear of being "ragged." He spoke jerkily, with marked twitching of the face and tremor of head and neck, and kept his hands hidden behind his back, but seemed considerably relieved to be telling his story.

His symptoms had first arisen in August, 1944, but cleared until January, 1945, at which time he was in the Antwerp area. He had reported sick and been given some medicine, after which he had improved considerably. Since then he had had recurrences lasting as a rule some three to four weeks. Surprisingly, he had had such a recurrence while on leave in England after cessation of hostilities. At this first interview he was reassured strongly and given a bromide mixture. As he was working in an office within a very noisy workshop, by arrangement with his C.O. he was transferred to more suitable employment. One week later he was much improved and stated that he was sleeping better. When last seen a week after this he felt so much better as to express the opinion that further medicine was unnecessary.

It was interesting to note his rapid response to sympathy, explanation, and improvement of working conditions, but it still remains to be seen whether his symptoms will again recur.—I am, etc.,

Accra, Gold Coast. B. STONE, Capt., R.A.M.C.

Lay versus Medical Administration

SIR,—Sir Frederick Menzies's letter (Feb. 16, p. 251) will be welcomed and endorsed by every experienced medical officer of health. The national health scheme should provide this country with the best health service in the world if it is wisely conceived and efficiently administered; there is no question that the doctors can give competent attention to the sick at home or in hospital if their efforts are not frustrated and obstructed. There are sound reasons, as Sir Frederick shows, why the chief administrative officers of the regional organizations should be medical men, and there can be no excuse for filling these appointments by lay officers, and particularly by lawyers. That medical men are competent administrators was proved by the success of the Ministry's E.M.S. Hospital Scheme, which was managed by medical men in co-operation with a few civil servants. Endless trouble and friction will ensue if the chief administrative officer is chosen because he is a member of the legal profession. The training for that profession is the one least calculated to make a good business manager or administrator, and it is amazing that local authorities, which nowadays are among the biggest businesses in the country, have failed to realize this, or when they know it have been unable to get out of the rut. When a public legal service is imposed on us, will it be suggested that the chief administrative officers should be medical men?—I am, etc.,

Newport, I.W. J. FAIRLEY.

Motive in Medical Demobilization

SIR,—Dr. Estcourt (Feb. 23, p. 295) argues that, because (as he thinks!) the "mass demobilization"—I thank him for that word—of doctors would have suited the Government better if it had been deferred until the summer, the motive which I ascribed to them—namely, a desire to get an immediate and large recruitment of doctors for the State service—is negatived. May I submit arguments in support of my explanation of this particular timing?

Mr. Bevan is obviously faced with an immense volume of resistance offered by the vast majority of the medical profession to his proposals. Your admirable leader in the *Journal* of Feb. 2 underlines and stimulates this opposition.

Mr. Bevan will, no doubt, have noted the cardinal mistake made by the Minister of Education in attempting "to make the Education Act work" without first securing an adequate reserve of teachers. The expedient adopted by the Minister to meet this deficiency was to admit to the national schools a vast number, estimated at about half the total required, of new recruits, who will attain the status of "qualified teachers" after a period of training from one-quarter to one-half of that hitherto exacted for such qualification. Mr. Bevan obviously cannot follow this precedent, but when he meets Parliament in two or three weeks with a Bill which will call for at least three times as many doctors as are now available he will be in a much stronger position than his colleague, the Minister of Education, if he can declare, as he obviously hopes to do, that he has "in the bag" some thousands of doctors suddenly released from the Forces, where they have been subjected for six years to continuous unilateral Socialist propaganda in which a State medical service has been a primary objective.

There have been five Ministers of Health in the past five years. Mr. Bevan may, quite legitimately, yearn to put upon the Statute Book, before he in turn gets moved on in due course, a vast health measure which has been for fifteen years a primary objective of the Socialist Party and which will bear his name. It is Dr. Estcourt, not I, who calls this a "dirty motive," but I have little doubt that this manœuvre will be acclaimed by his enthusiastic supporters as a characteristically "clever" Party scoop.—I am, etc.,

House of Commons. E. GRAHAM-LITTLE.

A Fundamental Principle

SIR,—I am a laywoman, unconnected with the medical profession in any way except occasionally as a patient, but I read the *Journal* because I like it, and I have been following the recent correspondence about the N.H.I. with interest. I must confess that my impressions are not at all the same as Dr. J. H. Wilson's (Feb. 23, p. 295). There have been many letters from doctors, in this and other connexions, showing "real concern for the welfare of the people"—i.e., their patients. I have no doubt that many reforms are desirable in connexion with our present medical system, but when doctors resent the threat of interference in the form of ignorant and pettifogging dictatorship and niggling regulations regarding their work they are quite right. Independence of judgment and of initiative, freedom of action and personal responsibility are essential to the exercise of any of the professions; but these are just the qualities which are proverbially anathema in the Civil Service, which is generally so busy treading elaborate mazes marked out with red tape that there is not much energy or appetite left for real work. To remove the scope for the exercise of these qualities in any profession is to induce that sense of frustration which expresses itself first in anger and resentment and finally in boredom and apathy.

In this connexion I recall an observation I have heard made regarding recruitment for the Colonial Medical Service, a State service—that it does not as a rule attract the best men because the frequent transfer from district to district prevents them from taking the same interest in their work as men settled in one place can have. Enthusiasm is killed because the work begun continually has to be dropped. This applies also to school-teachers in the Colonial Service.

One possible effect on patients of a compulsory health scheme, where people are determined to get their money's worth and have no inducement *not* to imagine themselves more sick than they really are, has not, I think, been mentioned: this is the calling out of doctors at unreasonable times and for absurdly trivial reasons. I saw something of this in internment in Singapore recently, where the doctors gave their services free. We were a camp of about 500 women and children of all nationalities and races, increasing ultimately to 1,200, with six women doctors, mostly members of the Malayan Medical Service. They were frequently called for peremptorily at the most unreasonable times for absurdly trifling reasons, and often had to put up with a good deal of rudeness from people who seemed to find their sense of importance greatly inflated by having a doctor thus at their beck and call. Nevertheless, under the immense handicaps which our prison conditions imposed they carried out their work as conscientiously and devotedly as possible, and, what anyone who has been a prisoner will probably agree was still more creditable, with all the sympathy and pleasant manners which one expects from a doctor under normal conditions. We had very few women in the camp of any education or administrative ability, and, in addition to their medical work, two of the doctors—Dr. Elinor Hopkins and Dr. Cicely Williams—were at different times camp commandant. Dr. Williams, who, under a temporary sympathetic Japanese regime which wanted to improve our diet, was taken out of camp to write a report on the food along with one or two doctors from the men's camp, was later removed from camp by the Japanese Gestapo on suspicion of contacts made with the local people during this period, and spent five months in a Gestapo prison. Dr. Patricia Elliott, in face of considerable opposition which included, I am sorry to say, some English-women, persuaded the camp to elect a child welfare committee, part of whose work was to prevent the lower-class Eurasian mothers from brutally beating and otherwise ill-treating their children.

I mention these facts only because they afford an instance of doctors' devotion to their work and their public spirit generally under especially difficult and unpleasant circumstances. Without deifying the medical profession in any way, I cannot subscribe to Dr. Wilson's criticisms. I think he is too hard upon the great body of his colleagues. And as regards slum patients, it is to be hoped that the Government will not forget that the first essential to improving their health is to abolish the slums. All else is merely palliative.—I am, etc.,

Kingham, Oxford. MARY THOMAS.

General Practitioners and Hospital Practice

SIR,—During the last six or seven years there has developed a wider conception of the hospital's sphere of work, a conception which had begun to form in many minds before the war. No longer are we content to regard the hospital as a place in which the patient is nursed through the serious part of an illness, and which takes little interest in him after recovery

until he falls ill again. A careful follow-up in association with all the social welfare organizations is demanded in the interests of the patient and the community. It is thus evident that not only patients but hospitals need rehabilitation.

The widely prevalent idea that by centralizing hospital work in large institutions one will achieve the best medical results is fallacious, tending to stultify local effort and lessen the interest of the community in the hospital and so reduce the hospital's educative value. It seems to me that in reorganizing medical services the first consideration, contrary to the general opinion, should be improvement of the general practitioner service, which forms the first line of defence against illness. The more efficient this is the less need there will be for hospital treatment, and such cases as eventually do need such treatment will reach the hospital at a stage where they are likely to receive maximum benefit. There are many things that should and can be done to improve the general practitioner service, but probably the most important is that the G.P. should be more closely connected with the work of the hospital in his area. This could be achieved by offering clinical assistantships to G.P.s willing to serve, these to be held for a limited period by men selected from a rota.

Dr. S. Goldwater, in an article on "The Hospital, the Family Doctor, and the Patient" in *The Hospital in Modern Society*, writes:

"The physician who enjoys a proper institutional association avoids the danger of becoming careless and superficial in his clinical methods. Nothing is more indispensable to the success of any effort to restore the general practitioner to a central place in medical practice than the creation of right relations between the family doctor and the hospital. Recognition of the need of a hospital connexion for every practitioner should be a controlling factor in all community hospital organizations, for a practitioner cannot do his job competently unless he enjoys the advantages of a healthy stimulating environment."

The cry is now for centralization of cases in large institutions, where every means of diagnosis and treatment is available, but a little thought should convince one that along with certain advantages there are definite disadvantages—physical and psychological—in such plans. The influence of the psychological factor is such that treatment demanding distant separation from relatives and friends may, and often does, yield less satisfactory results than less perfect, but nevertheless good, treatment nearer home. Moreover, centralized treatment in large institutions tends to deaden the communities' altruistic efforts, which will always be necessary for the development of a really satisfactory national medical service.

Bringing the general practitioner into closer association with the hospital not only will benefit him more than any of the projected refresher courses but will in turn benefit the consultant by giving him a wider outlook, and—a not unimportant consideration—lead to a more frequent call for his services in the home to the benefit of the patient. This association will be difficult to effect if there is over-centralization of hospitals whereby the latter are removed too far from the areas in which large numbers of G.P.s practise. For their education and that of the community a good case can be made out for the retention of the smaller hospitals.—I am, etc.,

London, W.8. HAROLD SANGUINETTI.

Chartered Society of Physiotherapy

SIR,—The plea put forward by the Chairman of Council of the Chartered Society of Physiotherapy (March 2, p. 335) for a closer co-operation between physiotherapists and the medical profession is deserving of strong support. The maintenance of the present acknowledged high ethical standard of the members of the Chartered Society is likely to become more difficult unless that co-operation be improved.

On the medical side it is to be regretted that many practising doctors and most medical students are not well informed as to modern physiotherapeutic techniques; this should be corrected by including some demonstrations and lectures on the subject in the medical curriculum.

Physiotherapists on their side should take every opportunity of showing doctors the scope and value of their methods, and multiply their points of contact with the medical profession. The Council of the B.M.A. recently had to deplore the severance of one important link when the Chartered Society voluntarily withdrew from the Board of Registration of Medical Auxiliaries. It is to be hoped that the new medical service will provide closer links between doctors and physiotherapists.—I am, etc.,

London, W.1. V. ZACHARY COPE.

Anaesthesia

SIR,—Dr. W. A. Bellamy's letter (Feb. 16, p. 252) betrays an attitude of mind not uncommon to many who find it easy to preface their remarks by the phrase "twenty years ago." One begins to suspect a reluctance on their part to admit the inevitability of progress. Surely our students are taught according to the ideas of their teachers, and they by virtue of their knowledge and experience are best fitted to advise as to the curriculum.

The plain fact is that the "good enough" in anaesthetics or any other branch of medicine will not satisfy those who seek to reach higher standards. The soldier to-day is not asked to become proficient in the use of bow and arrow ere he is taught the intricacies of the machine-gun. Let us treble the trappings, tubes, taps, and turncocks if by doing so we may reduce the mortality by the merest fraction. Might we not greatly improve the morbidity rate in our efforts? The death rate is surely not the only criterion. Avertin, originally introduced as a general anaesthetic, proved too deadly an agent but found a useful place as a basal anaesthetic. If the pundits now seek to prove its undesirability as such we must be broad-minded enough to entertain opinions, though these may run contrary to our own. Let professional conscience be our guide.

Who, for one moment, would suggest that the art of anaesthesia is a "mysterious cult," etc.? To practise the art, however, requires effort and a willingness to learn and understand how difficulties may be avoided and overcome, also an obligation to admit one's faults in any technique, no matter how cherished that may be, should other and more observant eyes detect such faults. Twenty years after or forty years after, let us never be too old to learn.—I am, etc.,

Salisbury. A. D. H. SIMPSON.

The Services

I.M.S. Dinner

The annual dinner of the Indian Medical Service is being revived this year. It will be held at the Connaught Rooms, Great Queen Street, W.C., on June 19. Major-Gen. Sir E. W. C. Bradfield will preside, and applications for tickets may be sent to Major-Gen. R. H. Candy, c/o Grindlay and Co., Ltd., 54, Parliament Street, S.W.1.

Col. (Local Brig.) D. Fettes, O.B.E., late R.A.M.C., has been appointed Honorary Surgeon to the King in succession to Major-Gen. D. C. Monro, C.B., C.B.E., late R.A.M.C., retired.

Surg. Cmdr. R. W. H. Tincker, R.N.V.R., has been awarded the R.N.V.R. Officers' decoration.

Surg. Lieut.-Cmdr. H. G. Singer, R.N., has been mentioned in dispatches for good services while a prisoner of war.

The following appointments and mentions in dispatches have been announced in recognition of gallant and distinguished services in the field:

C.B.E. (Military Division).—Brig. (Temp.) W. M. Cameron, O.B.E., R.A.M.C.

M.B.E. (Military Division).—Capt. G. Forrest-Hay, R.A.M.C.

Mentioned in Dispatches.—Major (Temp.) D. E. O'Connor-Cuffey and Capt. G. F. A. Caldwell, R.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Killed.—Capts. Patrick James O'Flynn and Bernard Sidman, R.A.M.C.

Died.—Major A. P. Barnard, R.A.M.C.; Major W. Bornshin, I.M.S.

Previously reported missing, now reported killed.—Lieut. A. E. Lewis, I.A.M.C.

Previously reported missing, now reported died of wounds.—Capt. S. S. Kirtane, I.M.S.

Previously reported missing, now reported died while a prisoner of war.—Capt. Godwin Lionel Robbins Tapsall, I.M.S.

Wounded.—Capt. S. Bradshaw, Lieut. A. R. Brailsford, Capt. Marguerite E. M. Day, Capt. H. W. Holland, R.A.M.C.; Capt. I. S. Dalson, I.A.M.C.

Obituary

J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

We announce with regret the death on Feb. 24 of Dr. John George Porter-Phillips, for many years physician-superintendent of Bethlem Royal Hospital and physician for, and lecturer in, psychological medicine at St. Bartholomew's Hospital.

Son of the late Robert Phillips, he was born in India, at Darjeeling, on June 28, 1877, and was educated at Brighton, at University College, London, and at Guy's Hospital. He graduated M.B., B.S.Lond. in 1907 and, after holding house appointments, won the Gaskell gold medal and prize in psychology and psychological medicine in 1911; he took the M.R.C.P. in 1914 and was elected F.R.C.P. in 1922. From 1910 onwards Porter-Phillips contributed a number of valuable papers on medical psychology, noteworthy among these being an address to the Hunterian Society in 1922 on "Insanity and its Relation to Criminal Law," and a paper in the *Lancet* on "The Early Treatment of Mental Disorder: A Critical Survey of Out-patient Clinics." Soon after his appointment as head of the Bethlem Hospital on its old site in Kennington he became lecturer in mental pathology at the London School of Medicine for Women; before then he had been the principal medical officer to King Edward School, Witley. During his very long membership of the Royal Medico-Psychological Association he acted for a time as educational secretary and as examiner for its diploma; he also examined in mental diseases for the Royal College of Physicians and at the Royal Army Medical College. His appointment to the senior staff of St. Bartholomew's brought him into human touch with a long succession of students, who attended his lectures and clinics there and also visited the Bethlem Hospital.

J. G. H. writes: Dr. Porter-Phillips was a handsome man with a charming manner and a sympathetic attitude which made him very popular with his patients. He was always dignified, and his calm distinguished bearing gave confidence to worried people, so that for many years he had a large consulting practice. Bethlem was his greatest interest and he was responsible for many advances and innovations there. In 1922 he started in Lambeth one of the first psychiatric out-patient departments in the metropolis. In 1930, when the new Bethlem Hospital at Monks Orchard was opened, many of the improvements which it possessed were his suggestions.

One of his interests was a dining club composed of medical men who had worked at Bethlem; this had quite a large membership since the hospital has for many years had house-physicians who were appointed for six months; many of these remained in psychiatry and, before the war, enjoyed coming to London for an annual reunion. He was responsible for the production of a hospital magazine and was himself a contributor to it. The war and the alteration in the manner of living came as a great change to him, but he remained at his post beyond the ordinary retiring age, until the end of 1944, when he was made a governor of the hospital. He will be mourned by a large number who have known him. He leaves a widow, two married daughters, and a son.

JOHN DAVIS BARRIS, M.B., F.R.C.P. F.R.C.S., F.R.C.O.G.

All St. Bartholomew's men will learn with great regret of the death of Dr. John Barris, which took place in the hospital on Saturday, Feb. 23.

John Barris was born in 1879 and in 1898 he entered Caius College, Cambridge, where he received an honours degree in Arts in 1901. As an undergraduate at Cambridge he took an active part in boxing and other sports. He then came to St. Bartholomew's Hospital, and while still a student was awarded the Shuter Scholarship. He qualified in 1905, and in 1908 was chosen for the Luther Holden Research Scholarship. At this time he was a member of the junior staff, and in this capacity he served as house-surgeon to Mr. W. Bruce Clark and then in turn midwifery assistant to Sir Francis Champneys and Dr. W. S. A. Griffith. After that he served as tutor to the department from 1909, the year in which he obtained the F.R.C.S., to 1913, when he was elected to the staff of the hospital. During the first German War he served with the R.A.M.C. in France. In 1925 he was elected F.R.C.P. and became senior physician-accoucheur and head of the department, which post he held until he retired in 1939 under the age limit. He was then made consulting physician-accoucheur and a governor of the hospital. When war broke out he immediately volunteered to help again in the department and worked at St. Albans until 1945.

John Barris was a born teacher, and in this respect showed himself a worthy successor to Herbert Williamson. He had a wonderful fund of patience and never tired in his efforts to drive home the details of sound midwifery. He was a member of the Obstetric and Gynaecological Section of the Royal Society of Medicine, and in 1938 was nominated as president of the Section, but he decided to refuse the honour because he was not in sufficiently good health to devote his best work to it. He was joint author of several textbooks, including *Midwifery by Ten Teachers*, and also *Diseases of Women by Ten Teachers*.

In 1909 he married Margaret Morris, and they had three daughters. Throughout his career at St. Bartholomew's Barris was intensely keen about the hospital rugby football club, and was its president for twelve or more years. Many of his best house-surgeons were also the best rugger players for the hospital. Barris was an exceedingly modest person, and much that he did for the hospital went unrecorded. His kindness and good temper were proverbial, and he was never known to lose his calmness even in the greatest emergency. There never was a man who was more loyal to his junior colleagues, by whom he will be sadly missed.

M. D.

Surg. Lieut. J. B. Gurney Smith, R.N.V.R., writes:

As an old obstetric student of Bart's may I pay tribute to a very revered teacher. Of all my clinical instructors, I feel none excelled Dr. Barris as a teacher. His lectures and ward rounds were invariably a sheer delight, and one never came away without feeling inspired. His painstaking preparation of his lectures was self-evident, and those who heard it will not soon forget his discourse on breech presentation. Perhaps two of his most marked qualities were his humanity and his devotion to Bart's. How often on his round in Martha Ward would he say, "Gentlemen, we are not considering a case of fibroids, but a woman who has a fibroid." To hear him talk to a patient was an impressive example of the authentic clinical approach. To be one of his clinical clerks was indeed an education and a privilege. In my first term as a pre-clinical student he was president of the Students Union. His welcoming address to us freshmen at the Students Union social, in which he extolled the grandeur of the hospital into whose life we were just entering, still lives in my mind. His reference to the famous "Square" with its celebrated fountain as "the soul of Bart's" was, I felt, a peculiarly apt phrase. His ready smile, his slow gait, and his courteous dignified manner all left an indelible impression on the mind.

SIR UPENDRANATH BRAHMACHARI, M.D.

By the death on Feb. 6 in Calcutta of Sir Upendranath Brahmachari at the age of 70, Bengal has lost one of her most distinguished Indian medical graduates. He was educated at the Hooghly College, where he obtained high honours in mathematics on taking the B.A. degree of Calcutta University in 1893; he entered the Calcutta Medical College after taking a degree in chemistry in 1894, and passed the M.D. examination in 1898, with the first place in medicine and surgery. This led to his early selection as a teacher in the Dacca Medical School and subsequently as lecturer in medicine at the Campbell Medical School. There he worked for nearly twenty years and built up a reputation as a physician and research worker with a lucrative practice. He retired in 1927 after having been physician to the Carmichael Medical College Hospital.

He will best be remembered for his researches on the treatment of kala-azar; for after tartar emetic, a trivalent antimony compound, had been proved by Italians and by workers in India to be a reliable cure for kala-azar Sir Upendra turned his attention to pentavalent antimony compounds, and found that urea-stibamine was more reliable and rapid in its action than potassium and sodium tartrates. Search for pentavalent compounds was at the same time being carried on by European chemists, the most successful of which was found, by work in the Calcutta School of Tropical Medicine, to be neostibosan.

Kala-azar was still prevalent in Assam, where the medical authorities used urea-stibamine on a large scale with marked success. Later Sir Upendra introduced the intramuscular use of neostibene. His clinical acumen was shown in his being the first to describe dermal leishmaniasis. In 1928 he published a book on kala-azar, and in 1940 two volumes entitled *Gleanings from my Researches*, together with very numerous papers and articles and addresses. He was knighted in 1934.

As a result of these researches honours followed thick and fast; of these the following are the more important. He served for long as Dean of the Faculty of Medicine, University of Calcutta. At different times he was president of the Indian Science Congress, of the Asiatic Society of Bengal, the Indian Chemical Society, the Society of Biological Chemists, India, of the Medical Research Section of the Indian Science Congress, and of the Board of Studies in Medicine, Calcutta University. During the recent war he held office in the Indian Red Cross Society, and became the first Indian chairman of its Bengal branch; he was also a vice-president of the St. John Ambulance Association, Bengal Centre. He served on the Board of Industries, Bengal, and on the Board of Trustees of the Indian Museum. At one time he was honorary assistant surgeon to the Viceroy. He received medals for his researches from Calcutta University, the Calcutta School of Tropical Medicine and Hygiene, and the Royal Asiatic Society of Bengal, and the Kaisar-i-Hind gold medal. Thus the promise afforded by the outstanding successes of his academic career was amply fulfilled by the proficiency he showed throughout his long medical service, aided by indefatigable energy and perseverance, which was crowned by his discoveries regarding the treatment of kala-azar. His successes have rarely been equalled, and never surpassed, by his Indian contemporaries, and his example will be a stimulus to his fellow-countrymen in labouring for the good of vast but poor races of India shortly to be committed to a fuller extent than ever to their care.

Dr. H. P. LIE, of leprosy fame, died on Dec. 17, 1945, the day before he was due to celebrate his 83rd birthday. He was for many years the understudy of Dr. Armauer Hansen, who discovered the bacillus of leprosy in 1873 and who, on his death in 1911, was succeeded by Lie as the administrative head of the leprosy services in Norway. Lie lived up to his favourite rule: "As we are a small nation, quality must take the place of quantity." The quality of Lie's work was such that he became a universally recognized authority on leprosy, and it fell to his lot to organize the International Leprosy Congress, presided over by Armauer Hansen and held in Bergen in 1909. In spite of the many claims made on him at home and abroad in connexion with leprosy, Lie found time to serve on the Municipal Council of Bergen, to promote the scientific work of the Bergen Museum, and to preside over the Norwegian Society for the Promotion of Science. He was also an associate editor of several scientific publications.

The death took place on Jan. 12 of Col. MICHAEL J. WHELTON at the Mount Vernon Hospital, Middlesex. Born in 1892 at Cork, where he received his early education, he entered University College, Cork, and graduated in 1916 with first-class honours. After a year at hospital work in London he joined the R.F.C., served in France, and later was posted with the Army of Occupation on the Rhine. In 1920 he entered the R.A.M.C., graduated M.D. in 1926, and took the D.P.H. in 1928. He served in India, China, Egypt, and Palestine, and again in France in 1939–40. In 1942, though already having had treatment for the malady which later proved fatal, he went to North Africa in command of the 70th British General Hospital, and working ceaselessly in Africa, Sicily, and Italy, was an inspiration to his colleagues and was justly honoured by his superiors and mentioned in dispatches. Ill-health made a return to London for treatment imperative in July, 1945. W. M. C. writes: Col. Whelton commanded the 70th General Hospital in Africa, Sicily, and Italy with the same simple naturalness which he put into every part of his life. What mattered to him was the man and not the uniform he wore, and many will remember with gratefulness his sympathetic understanding. He abhorred pomposity and laziness, but no one was quicker to recognize genuine endeavour and skill. His one thought was the good of the unit and the efficiency of the service it gave, and, compared with these, Army regulations were of minor importance. His knowledge of tropical medicine and his enthusiasm for hygiene were of great value in the unit. He was a man of genuine kindliness and he was a loyal friend.

Dr. JOHN ALEXANDER PRINGLE, honorary ophthalmic surgeon to the Kent and Canterbury Hospital, who died at Epsom on Feb. 12, was born at Aughnacloy, Co. Tyrone, in 1882, and was educated at Coleraine Academy, at the Royal Academy, Belfast, and at Trinity College, Dublin. He graduated in medicine in 1905, and proceeded M.D. of Dublin University in 1908 after holding house-appointments in Dublin and at the Bristol Eye Hospital. Coming to London he worked as chief assistant at Moorfields and senior ophthalmic assistant at St. Mary's Hospital, and later settled at Canterbury. During the war of 1914–18 he was officer in charge of the ophthalmic centre at Rouen, and then ophthalmic surgeon to the 4th Army, B.E.F., and afterwards held the same post in the British Army of the Rhine. On returning to civil life he became eye surgeon to the Ministry of Pensions for the Canterbury District and to the local education authority; he was also consulting ophthalmic surgeon to the Herne Bay Hospital and to Princess Mary's Hospital for Children at Margate.

Medical Notes in Parliament

Medical Examination for Industrial Injuries

On Feb. 18 the House of Commons discussed the National Insurance (Industrial Injuries) Bill after its amendment in a standing committee. On Clause 25 (obligations of claimants and beneficiaries) Mr. DOUGLAS moved to omit the provision that the injured person must accept the treatment appropriate to the relevant injury or loss of faculty. He said that as the clause was drafted the Minister was given power to make regulations determining the treatment appropriate, and would presumably have power to make regulations obliging an injured person to attend before a doctor whom the Minister chose. That doctor would prescribe a course of treatment. By a later part of this clause the Minister had power to oblige the injured person to observe that course of treatment, and in subsequent clauses to deprive the injured man of benefits if he did not have the course of treatment prescribed. The Minister further had power to make regulations which would impose upon the claimant a liability to pay £10 a day for every day during which he refused this treatment. The definition of treatment included surgical treatment and amputations and could also include inoculation.

Mr. HOUSE, seconding the amendment, said the B.M.A. was seeking freedom of choice for the patient as between one registered medical practitioner and another and also freedom of choice for doctors to enter Government service or private practice. Mr. House asked that the injured workman should have freedom of choice to attend either a registered medical practitioner or an unorthodox practitioner such as an osteopath, naturopath, herbalist, or others. He spoke as a layman who had benefited by "nature healing." Unorthodox practitioners were prepared to deal effectively and in an organized manner with quacks. He and his friends only wished those unorthodox medical practitioners to be recognized who could comply with whatever standard qualifications the Minister might lay down.

Mr. PAGET said the Workmen's Compensation Act contained a similar provision to that which was now challenged. Under that Act the doctors of insurance companies used to go into the witness box and say: "This man will be cured by operation." In the large majority of cases in which, in his practice under the Act, he had known the man to submit himself to operation the medical advice turned out to be quite wrong.

THE OBJECTIVE OF EXAMINATION

The SOLICITOR-GENERAL (Sir Frank Soskice) said the penalty clause of the Bill empowered the Minister to make it an offence not to comply with the regulations. The Minister never intended to prepare a regulation which would make it an offence punishable by the criminal law for any workman to fail to comply with directions given under a regulation. The Government proposed to accept on a later clause an amendment which would provide that it should be an offence not to comply with a regulation other than one requiring a workman to submit to medical treatment. The proposal in the clause under discussion was simply that when a workman submitted himself to medical examination the first object of that examination should be to determine the effect of the relevant injury. The second object would be to enable the Ministry's doctor to try to make up his mind what treatment would be appropriate to the injury. That was a primary purpose of all medical examinations. If the man without reasonable cause refused to accept the advice of the doctor all that could happen to him would be that he forfeited his right to benefit. If a workman held strongly the opinions voiced by Mr. House the insurance officer to whom the case could be referred might take the view that such opinions were a reason-

able cause. The regulations which the Minister proposed to make must be submitted to the Industrial Injuries Advisory Council, which would include experts qualified to judge of these matters. The Solicitor-General submitted that the injuries with which the Bill would deal were, in the majority of cases, diseases that were known or the causes of which would not give rise to a great deal of medical controversy. He asked the House to reject the amendment.

Dr. H. B. MORGAN said a great deal of the antimedical prejudice was the aftermath of conditions when workmen in the past had been examined by a particular set of doctors whose object had always been to see whether the man was malingering or whether he was trying to prove that his physical injury or disease was due to an accident when the Ministry of Pensions held that it was not. Hitherto assessment of disability resulting from disease or accident had not been taught in British medical schools, but even if what had been said was true, the workman was entitled to the best professional medical treatment he could get. No untrained treatment was sufficient. Dr. Morgan failed to see why any scheme to which all workers contributed should not lay down regulations for the appropriate treatment for every individual on a broad scale. If the Minister of National Insurance secured the right type of medical man to do this work he would confer great benefits on the workmen. Dr. Morgan hoped there would be machinery to secure the right type of doctor.

THE "COMPENSATION DOCTOR"

Mr. JAMES GRIFFITHS, replying to the discussion, said that in the past a man receiving an injury was asked by the employer to attend at a certain place to be examined by a man who was known as a "compensation doctor," partly or fully employed by insurance companies and others and not strictly employed for purely medical purposes. Under the present Bill the Government took power to enable the medical officer acting for the Ministry to require the man to be examined in order to suggest and advise proper treatment. Obviously the Ministry would have its own doctors and the man would have his doctor, and there would be consultation between the two. Most of the cases concerned would be of physical injuries or industrial diseases. For the first time in a workmen's compensaton Act it would be the concern of the Government to see not only that a man received what he was entitled to receive but also that he was encouraged and advised to secure treatment.

Dr. MORGAN asked where, pending the development of a National Health Service, the Minister would find rehabilitation centres for the men whom he intended to compel to have certain treatment. Mr. GRIFFITHS replied that the Government could not provide a full scheme at present. In the meantime they had a miners' rehabilitation centre in South Wales.

Sir HENRY MORRIS-JONES said that at present a man could appeal to a judge of a court of law who had two medical men as assessors. Under the proposal before the House the man who disagreed with the Government's doctor about treatment prescribed must appeal to an insurance officer—a layman—who would have to decide a purely medical issue.

The amendment was negatived.

Mr. DOUGLAS moved to leave out the provision that an injured man for whom treatment had been prescribed should be bound to observe "any prescribed rules of behaviour." He pointed out that acceptance of this amendment would still leave the condition that the man was "not to behave in any manner calculated to retard his recovery." The SOLICITOR-GENERAL said he could not accept the amendment, claiming that a subsequent amendment put down by the Government would meet the point. Later, after some discussion, he announced that the Government had decided to accept it.

When the debate was resumed on Feb. 19 Mr. GRIFFITHS, on Clause 56 (special provision as to certain respiratory diseases), moved to substitute six for three months as the period during which a man who was certain to become disabled if he remained at work could be suspended by a medical board from employment in a coal mine. He said everything should be done to prevent men staying in the mines after the onset of pneumoconiosis or silicosis. Six months itself was a short enough period.

Dr. BARNETT STROSS said those interested in the subject were happy to have this extension. However, if they waited until the first stage of silicosis was well established and then gave six months' entitlement they would not do much. The Minister must see that the periodical medical examinations were frequent and thorough enough to enable men to be withdrawn at a very early stage. The men should come out in what the South Africans used to call the "ante-primary stage." Dr. MORGAN advocated no limitation of time to either three or six months. Men should receive payment if regarded as fit for suspension until they were rehabilitated to the extent of finding other jobs at which they could work.

Mr. JAMES GRIFFITHS said that all the Government was doing was dependent on the completely new and successful health service. There must be "periodical examination of the men all the time." That would be done as soon as possible, but it could not be done now.

Dr. MORGAN appealed for the power of certification to be extended to cases of men suffering from pneumoconiosis through dust caused in foundries. He said this had not been accepted by the Government on the ground of insufficient evidence. Mr. GRIFFITHS said power had been granted to a board to decide this problem. He could not accept responsibility for the suspension of men.

The amendment moved by Mr. Griffiths was accepted. After further discussion and amendment the report stage was then completed.

Medical Recruitment

Asked by Mr. ALLIGHAN on Feb. 26 what had been the distribution of recruits to the medical branches of the three Services since June 18, 1945, Mr. BEVAN said the totals were: Navy (to Feb. 25) 105; Army (to Jan. 31) 433; R.A.F. (to Jan. 31) 33.

Col. STODDART-SCOTT on Feb. 28 asked Mr. Bevan to distribute to the R.A.F. a larger number of medical recruits so that demobilization would not remain ten groups behind the Army. Mr. BEVAN said he was aware of the delay in demobilization of medical officers from the R.A.F. The allocation of doctors to the R.A.F. had been reviewed on the previous day by the Medical Personnel (Priority) Committee. He promised to consider the matter in the light of any recommendations the committee might make.

University Grants

Mr. DALTON announced on Feb. 22 that he proposed to ask Parliament to vote £9,450,000 for grants to the universities for 1946–7. This was £3,800,000 more than had been voted for 1945–6. It included a further £2,250,000 for capital grants, a re-vote of £1,200,000 which had not been spent, and an additional £100,000 for dental education. He had told the University Grants Committee that he would be prepared, if good cause were shown, to ask Parliament to vote even larger capital sums.

On the same date Mr. GLENVILLE HALL stated that the constitution of the University Grants Committee was as follows: Sir Walter Moberly (chairman), Prof. W. E. Collinson, Sir Charles Darwin, Miss Margery Fry, Sir Robert Greig, Sir Peter Innes, Sir Frederic Kenyon, Prof. P. S. Noble, Prof. G. W. Pickering, Prof. Andrew Robertson, Sir Edward Salisbury, Prof. J. C. Spence, Prof. R. H. Tawney, and Sir Henry Tizard. The members were not appointed in a representative capacity, but the committee was so constituted as to include persons with special qualifications and experience in the main fields of university activity.

Hospital Accommodation in Scotland

Mr. WESTWOOD told Major Guy Lloyd on Feb. 26 that action on the observations contained in the recent survey of Scottish hospitals by the Department of Health for Scotland would generally have to await the reorganization of the health services as a whole. The first concern of the local authorities responsible for tuberculosis and infectious diseases would be to remedy shortages of nursing staff, so that all the accommodation already available could be used.

Harvard Field Hospital Unit

On Feb. 25 Major J. MORRISON asked the Minister of Health if, in view of the difficult housing situation in Salisbury, he would arrange for the Hubbard hospital buildings recently vacated by the U.S. Army to be made available as temporary accommodation. Mr. BEVAN assumed that Major Morrison referred to the Harvard Field Hospital Unit, which was generously presented to Britain during the war by the American Red Cross and Harvard University for the purpose of research into the prevention of infectious diseases. Mr. Bevan said he intended this should continue to be used for purposes allied to that of the original gift.

Ambulance Ships.— Two vessels fitted as ambulance transports are engaged in transport of sick and wounded Service men to the United Kingdom. Mr. LAWSON on Feb. 26 refused to accept the suggestion that the degree of comfort and the facilities provided on these ships were inadequate for the purpose. He added that hospital ships were still used for the transport of the more seriously ill patients. He pointed out that it was not the normal peacetime practice to carry invalids in hospital ships, as the numbers were too small.

Dental Benefit.—The Dental Benefit Council, which is representative of dentists and approved societies, will meet on Feb. 14 and will consider an application for a revision of the scale of fees

prescribed by the Dental Benefit Regulations. Mr. James Griffiths hopes that in the result a solution will be found of the difficulties arising out of the refusal of certain dentists to undertake work on the basis of the present scale of fees. The question of resuming regular meetings of the council will also be considered.

Hospital Domestic Labour.—When asked on Feb. 21 about a shortage of domestic workers at Colindale Hospital, Mr. ISAACS said the British Hospitals Association and other hospital associations had contributed to building up standards for this work which should encourage further recruitment. An understanding about wages and working conditions had been put into force. Until the Ministry saw how a publicity scheme for encouraging people to take up these duties was working he was not going to arrange wholesale importation of domestic workers from the Continent.

Tuberculosis Invalidings from the Navy.—Between September, 1939, and January, 1946, 8,144 officers and ratings, including Royal Marines, were finally invalided out of the Royal Navy on account of pulmonary tuberculosis.

Hot-water Bottles.—Sir STAFFORD CRIPPS said on Feb. 18 that retailers had no authority to demand medical certificates before supplying hot-water bottles. But if, in the opinion of the patient's doctor, a rubber hot-water bottle was necessary for purposes of treatment, it was desirable that a medical certificate should be given some priority. Certificates should be issued only on that ground.

The Aged and Extra Milk.—Sir Ben Smith will not authorize doctors to issue certificates for extra milk for old people not suffering from specific illnesses. The Special Diets Advisory Committee of the Medical Research Council advises him that there are no nutritional grounds for allowing extra milk to old people. He has arranged for repatriated civilian prisoners of war who were suffering from malnutrition to be allowed extra milk.

Notes in Brief

Up to the end of December last pensions had been granted in about 3,000 cases of psychosis and 1,000 of epilepsy accepted as attributable to or aggravated by service in the war. In addition awards had been made in about 27,000 cases of psychoneurosis and other nervous disorders.

Calcium in the form of creta praeparata is added to flour at the rate of 7 oz. of calcium to 280 lb. of flour.

The Minister of Food states that he has made arrangements for people suffering from coeliac disease to be able to get ample and regular supplies of dried bananas. His medical advisers inform him that these are as suitable for such patients as fresh bananas. He does not propose to make any special arrangements for them to get fresh bananas. It would not in any case be possible to guarantee regular supplies.

The report of the Electro-acoustics Committee on Hearing Aids is being prepared. It is hoped to publish it in the near future.

The Minister of Supply, Mr. Wilmot, is doing all he can to help manufacturers to secure skilled labour for manufacture of surgical apparatus such as spinal jackets.

There is no prospect of soap rationing ending at an early date.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

At a Congregation on March 1 the Senate resolved to confer the degree of Master of Arts, *honoris causa*, upon Arthur Leslie Banks, M.D.Lond., Principal Regional Medical Officer of the Ministry of Health. The recommendations of the Council of the Senate for the establishment of a professorship of radiotherapeutics were approved, and also for an additional payment to the Regius Professor of Physic for work in connexion with the organization of the School of Clinical Medicine.

The Board of Management of the Frank Edward Elmore Fund will shortly award a studentship for research, open to male graduates of any university in any country, who were born at any place within the British Empire, other than Scotland. The student appointed will work in the Department of Medicine at Cambridge, under the direction of the Regius Professor of Physic, commencing salary £400 a year, the appointment being for two years in the first instance. Further information may be had from the Regius Professor of Physic, Department of Medicine, University of Cambridge, to whom applications, with three testimonials, a statement of previous appointments, and copies of published papers, should be sent so as to reach him by March 22.

The following candidates have been examined and approved for the degree of M.Chir.: A. G. Leacock, G. C. Martin, B. H. Page.

UNIVERSITY OF LONDON

The following candidates have been approved at the examination indicated:

THIRD M.B., B.S.—J. G. Millichap (with honours and distinguished in surgery), Daphne S. A. Anderson, H. Annamunthodo, E. R. Arnold, R. J. Aspinal, P. T. Ballantyne, J. C. Batten, A. J. Beale, D. W. Beynon, Margaret J. Blair, L. W. Bland, Pattie E. Bradfield, Catherine M. P. Bradstreet, P. E. Brown, G. H. Carrick, H. E. A. Carson, P. T. Chopping, C. I. Cooling, B. S. Cooper, W. D. Corfield, J. C. Crook, Naomi Datta, E. T. De Mel, H. G. Dixon, C. J. Don, F. R. Ellis, Norah C. Elphinstone, Rosemary F. Evans, Elizabeth P. E. Everard, A. Feldman, H. Fishbone, A. Folkson, S. L. Gauntlett, Jean M. Gilbert, Beryl M. Goetzee, L. S. Goodhardt, W. P. D. Green, W. P. Gurassa, D. O. Haines, Audrey Hanson, Elizabeth J. Harman, P. C. Harris, T. A. Harrison, A. Hollman, T. G. Hooson, Edith C. C. Hörburger, J. R. F. Innes, H. C. W. James, B. W. Jaslowitz, R. C. Jennings, K. S. Jones, J. W. Jordan, P. K. S. Joynson, D. L. Kerr, I. W. Kerr, Catherine M. R. Kirkpatrick, J. M. Kodicek, T. Koonvisal, E. Kupfer, E. T. Lay, Elizabeth J. Lee, B. Lewis, S. Lewis, O. C. J. Lippold, Anne Maguire, L. V. Martin, D. T. Methuen, J. B. Musgrove, Rosemarie D. Newhouse, J. K. Oates, D. J. O'Brien, H. Parkes, Liliane Parkinson, T. D. Parsons, I. C. L. Patch, I. A. W. Peck, G. F. Penny, J. H. S. Pettit, G. D. Powell, D. E. Pugh, S. S. Raphael, Rosalind B. Reiss, A. T. Richardson, L. Roodyn, M. L. Sacks, A. H. Saddler, M. E. Samrah, T. A. L. Scott, G. C. W. Sharpe, C. S. Shaw, L. Silverstone, E. R. Simpson, S. R. Sims, Mary E. Smith, K. A. Sowden, D. G. H. Sylvester, B. E. R. Symonds, Edith Taylor, E. H. Taylor, Mary J. L. Taylor, G. I. Tewfik, Vivian M. N. Usborne, Brenda D. van Leuven, J. D. Wallace, J. G. Watt, P. Westcombe, M. J. Whelan, J. B. Wild, J. M. Wilks, N. A. F. Young, D. M. Zausmer.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL

The Sydney Ringer Memorial Lecture will be delivered by Prof. J. Z. Young, F.R.S., in the Lecture Theatre of the University College Hospital Medical School (University Street, Gower Street, W.C.) on Tuesday, March 12, at 4.30 p.m. His subject is "Effects of Use and Disuse on Nerve and Muscle." The lecture is open to all qualified practitioners and medical students.

UNIVERSITY OF MANCHESTER

The following appointments are announced: *Lecturer in Medical Neurology*, G. G. E. Smyth, M.D. *Lecturer in Neurosurgery*, R. T. Johnson, M.B., F.R.C.S. *Lecturer in Surgery*, R. L. Holt, M.D., F.R.C.S. *Demonstrator in Experimental Physiology*, M. G. Saunders, M.B., Ch.B. *Lecturers in Preventive Medicine*, C. Metcalfe Brown, M.D., D.P.H., and F. R. Marshall, M.D., D.P.H. *Lecturers in Industrial Health*, F. H. King, M.D., A. T. Jones, M.D., D.P.H., M. W. Goldblatt, M.D. *Assistant Director of the Routine Section in the Department of Bacteriology*, H. W. Clegg, M.D., D.P.H.

UNIVERSITY OF EDINBURGH

At the February meeting of the University Court, with the Principal, Sir John Fraser, presiding, it was announced that the Cameron Prize in Therapeutics for 1946 had been awarded to Prof. A. Szent-Györgyi, of the University of Szeged, Hungary, in recognition of his eminent contributions to knowledge of vitamin C.

Robert James Kellar, M.B.E., M.B., Ch.B., F.R.C.S.Ed., F.R.C.O.G., has been appointed to the Chair of Midwifery.

UNIVERSITY OF DUBLIN

The Senate of Dublin University has announced its intention to confer a number of honorary degrees, including the Sc.D. on Sir Alexander Fleming, F.R.S., professor of bacteriology at St. Mary's Hospital Medical School, and Prof. Eric K. Rideal, D.Sc., F.R.S., of the chair of colloid science at Cambridge University; and the M.D. on Sir Herbert Eason, F.R.C.S., President of the General Medical Council.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The following letter dated Feb. 14 (John Hunter's birthday) has been received by the President of the Royal College of Surgeons from Sir William H. Collins:

> "I have been disturbed for some time because it seemed to me that possibly financial considerations were preventing the Royal College of Physicians transferring their headquarters to Lincoln's Inn Fields. In order to help to remove any such difficulty which may be standing in the way of the establishment of a Medical Academic Centre in London, I am making a further gift of £100,000 to the Royal College of Surgeons to provide increased endowment for the Scientific Departments. The gift is made on condition that the Council offers all the sites and property which they own to the east of the College and which are not required for the extension of the Royal College of Surgeons as a free gift to the Royal College of Physicians. The offer by the Royal College of Surgeons must be conditional on the site being used for a new building for the Royal College of Physicians and must be kept open for at least twelve months."

The Council of the College has accepted with extreme gratitude the conditions laid down and has made a formal offer of the site to the Royal College of Physicians in accordance with Sir William Collins's wish.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

At a quarterly meeting of the College held on Feb. 5, with the President, Dr. D. M. Lyon, in the chair, Dr. D. M. F. Batty (Edinburgh), Dr. J. Halliday Groom (Edinburgh), Dr. G. A. G. Peterkin (Edinburgh), Dr. James Innes (Edinburgh), Dr. Angus MacNiven (Glasgow), and Dr. J. S. Fulton (Glasgow) were introduced and took their seats as Fellows of the College.

Dr. B. S. Bindra (Karachi, India) and Dr. O. Olbrich (Edinburgh) were elected Fellows of the College.

No. 7

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Feb. 16.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1946 (a)	(b)	(c)	(d)	(e)	1945 (Corresponding Week) (a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	73	5	26	—	3	73	9	27	7	2
Deaths		2	2				1	1		
Diphtheria	489	23	115	58	17	427	18	129	91	18
Deaths	5	—	2	—	1	9	—	1	1	1
Dysentery	255	14	41	—	1	357	33	140	1	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	2	—	—	—	—	—	—	—	—	—
Deaths		—					—			
Erysipelas			38	8	3			53	10	4
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				23					9	
Deaths	50	6	10	9	2	62	8	4	17	9
Measles*	1,489	353	192	58	4	19,167	640	421	22	116
Deaths	2	—	—	—	—	16	1	1	—	—
Ophthalmia neonatorum	74	5	16	1	—	53	1	16	—	1
Deaths										
Paratyphoid fever	—	—	—	—	—	1	—	2(B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal	1,387	79	68	37	6	1,206	75	19	12	13
Deaths (from influenza)†	220	34	22	9	10	55	11	8	4	1
Pneumonia, primary			424	28				317	20	
Deaths		72		18	22		47		17	15
Polio-encephalitis, acute	2	—				—	—			
Deaths		—					—			
Poliomyelitis, acute	9	—	—	—	—	1	—	—	—	—
Deaths		—					—			
Puerperal fever		2	18		—		2	19		—
Deaths										
Puerperal pyrexia‡	147	10	18	—	1	149	5	12	2	1
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,303	90	204	25	40	1,497	47	197	8	44
Deaths	1	—	—	—	2	2	—	—	—	—
Smallpox	4§	2	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	5	1	2	9	—	11	—	3	5	1
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,329	112	91	26	5	1,530	76	151	53	12
Deaths	8	—	1	2	—	14	2	2	2	2
Deaths (0–1 year)	408	58	82	32	19	456	39	55	45	44
Infant mortality rate (per 1,000 live births)										
Deaths (excluding still-births)	5,961	940	744	247	200	6,014	909	815	276	189
Annual death rate (per 1,000 persons living)			16·4	15·8				18·5	17·8	
Live births	7,579	1,095	949	462	267	6,907	764	835	340	257
Annual rate per 1,000 persons living			19·1	29·6				16·7	21·9	
Stillbirths	251	39	37			210	13	28		
Rate per 1,000 total births (including stillborn)			38					32		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ 1 case imported.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* the chief features of the returns were the large decreases in acute pneumonia, scarlet fever, and dysentery, of 445, 102, and 82, respectively. The only diseases with an increased incidence were measles, with 278 more cases, and whooping-cough, with 76 more.

Acute pneumonia was less prevalent in most areas of the country, the only exception being a slight rise in Lancashire. The fall in scarlet fever was mainly contributed by two areas—Lancashire and London—with 58 and 34 fewer cases, respectively. The only variations of note in the returns of diphtheria were reported from Wales; in Glamorganshire the cases rose from 14 to 28, and in a local outbreak in Carmarthenshire, Llandilo U.D., the cases increased from 3 to 18. Measles is only prevalent in four counties—Lancashire, London, Norfolk, and Suffolk. The notifications in these counties amounted to almost three-quarters of the total for the country.

The outbreak of dysentery in Leicestershire continued to diminish, only 23 cases being reported during the week. Other large returns for dysentery were: Lancashire 44, Warwickshire 27, London 14, Northamptonshire 13, Yorks West Riding 12, Bedfordshire 11, Northumberland 11.

The births recorded in the first seven weeks of the year in the great towns show a substantial rise on those of the corresponding period of last year—50,899 against 47,844. Despite the increase in births, the number of infant deaths are fewer—3,243 compared with 3,520.

Two liners have recently arrived from Bombay with smallpox cases aboard—the *Duchess of Richmond* with 4 cases, and the *Georgic* with 1. (According to a Press statement of March 6, the *Georgic* case is one of chickenpox.) Another case of smallpox has been confirmed in the Tilbury area; so far there have been 5 cases, with 2 deaths.

In *Scotland* the only diseases with a larger incidence were scarlet fever, with 26 more cases, and whooping-cough, with 22 more. A decrease was recorded for acute primary pneumonia of 104, measles 29, diphtheria 25, and dysentery 24.

In *Eire* measles notifications decreased further, from 85 to 57. Notifications of diphtheria rose by 16, while whooping-cough fell by 23.

Vital Statistics, 1945

The provisional returns for England and Wales for 1945 show a decline in the birth rate, the rate for the year being 16.1 per 1,000, compared with 7.5 and 16.2 for the two preceding years. Stillbirths represented 2.8% of the total births—the lowest rate ever recorded. The general death rate was 11.4—a new low record. The previous lowest death rate was 11.5 in 1942.

Typhoid in Germany

Each week in the British zone 70 Germans are dying of typhoid fever, according to the recent medical survey.

Bovine Tuberculosis

The incidence of bovine tuberculosis is unknown, and indirect estimation based on non pulmonary tuberculosis is generally used for comparative purposes. Non-pulmonary tuberculosis is not a highly satisfactory index since many cases are of human origin, although, on the other hand, some cases of pulmonary tuberculosis are of bovine origin. For children under 5 years of age it has been found by laboratory examination that abdominal tuberculosis is nearly always of bovine origin. These deaths therefore give the best indication of the prevalence of bovine disease for comparative purposes. The following table sets out the trend of the death rates for degree of urbanization.

Death Rates from Abdominal Tuberculosis per 1,000,000 Children under 5 Years of Age in Each Area (Actual Number of Deaths in Parentheses)

	1921	1930	1938	1944
London (administrative county)	136 (51)	24 (8)	12 (3)	6 (1)
County boroughs	437 (490)	157 (166)	63 (57)	35 (32)
Urban districts	366 (390)	134 (139)	77 (66)	42 (42)
Rural districts	252 (176)	92 (57)	63 (31)	60 (37)

The death rates have continuously declined in each area, but the figures supplied by the Registrar-General, the first of their kind, show a striking difference between areas. The rate for London in 1944 was only one-tenth of that in rural districts. In 1944 the rate for London was only one-twenty-third, and that for the rural districts one-fourth, of the 1921 level. A factor of importance is pasteurization of milk. Before 1923 no milk was pasteurized under licence, though in London and a few

larger towns some was "flush" heated, particularly in hot weather to prevent souring. By 1938 over 50% of the milk consumed in county boroughs was pasteurized, and over 98% in London.

Week Ending February 23

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,307, whooping-cough 1,632, diphtheria 510, measles 1,587, acute pneumonia 1,125, cerebrospinal fever 71, dysentery 406, paratyphoid 4, typhoid 7. One case of smallpox was imported. Deaths from influenza in the great towns numbered 141.

Medical News

A meeting of the Middlesex County Medical Society will be held at the West Middlesex County Hospital, Isleworth, on Tuesday, March 12, at 3.30 p.m.

The next meeting of the Food Group of the Society of Chemical Industry will be held in the rooms of the Chemical Society, Burlington House, Piccadilly, W., on Wednesday, March 13, at 6.30 p.m., when papers will be read on phosphatase activity as an index of heat damage in cereals, on the absorption of aneurin (vitamin B_1) on sand, and on the effect of tinplate and of lacquered surfaces on the oxidative deterioration of butterfat. Members may introduce friends personally.

The following radiological meetings will be held in London this month. Thursday, March 14, 8 p.m., British Institute of Radiology (32, Welbeck Street, W.), presidential address by Dr. L. H. Clark, "Hospital Physics"; Friday, March 15, 2.30 p.m., Therapy Section Meeting of Faculty of Radiologists at Royal College of Surgeons of England (Lincoln's Inn Fields, W.C.), discussion on "Orbital Tumours" to be opened by Mr. Harvey Jackson, Mr. H. B. Stallard, and Dr. John Raban; Friday, March 15, 8 p.m., meeting of Radiology Section of Royal Society of Medicine at 1, Wimpole Street, W., paper by Prof. A. Lacassagne, of Paris. The annual meeting of the Faculty of Radiologists will be held at Glasgow on Friday and Saturday, June 28 and 29.

The annual general meeting of the Institute of Almoners will be held at 6 p.m. on Friday, March 15, in the Great Hall of B.M.A. House, Tavistock Square, when Sir Ernest Rock Carling, F.R.C.S., will give an address.

The Tuberculosis Association will meet at 26, Portland Place, London, W., on Friday, March 15. The Council meeting at 3.30 p.m. is to be followed by an ordinary meeting at 5 p.m., when papers on design and equipment of the modern chest clinic and of the modern sanatorium will be read. At 8 p.m. Dr. Philip Ellman and Dr. F. Ridehalgh will open a discussion on "The Changing Chest Clinic." On March 16 a special meeting at the Essex County Hospital at Black Notley begins at noon with demonstrations in the wards. At 2 p.m. in the King Edward VII Memorial Hall the speakers will be Dr. W. A. Bullough, Dr. Raymond Cohen, Mr. R. Reid, Dr. Franklin G. Wood, and Dr. M. C. Wilkinson.

Dr. C. P. Blacker will speak on "Galton's Outlook on Religion" at a members' meeting of the Eugenics Society to be held on March 19, at 5.30 p.m., at the rooms of the Royal Society, Burlington House, W.1.

Dr. Kenneth Tallerman will lecture on some medical conditions in childhood to the Association of Austrian Doctors in Great Britain on Friday, March 15, at 7.30 p.m. at 69, Greencroft Gardens, N.W. (near Finchley Road station).

The North-West London Branch of the English New Education Fellowship announces a public lecture on "Penicillin: Its History, Present Uses, and Possibilities," by Mr. A. L. Bacharach, M.A., F.R.I.C., on Wednesday, March 27, at 7.45 p.m. in the Hall, Hendon County School, Golders Rise, Hendon, N.W.4. Chairman: Dr. A. F. Adamson, medical officer of health, Hendon. The meeting is open to all members of the public.

A group of settlements in Bethnal Green is running a series of short vacation courses under the title "Discover Your Neighbour," for professional workers in training (including doctors, lawyers, teachers, and probation officers). The object is to provide a broad general picture of the social field with only a restricted part of which the professional person will be directly concerned; and to emphasize the need for an understanding of the human factor involved. It consists mainly of practical assignments (in shops, factories, and so forth) bringing students into everyday contact with the life of the neighbourhood, of discussions and tutorials to supplement particular observations. The next course runs from March 27 to April 17. Further information is available from the Vice-Head, Oxford House, Mape Street, Bethnal Green, E.2.

The N.W. London Blood Supply Depot, Slough, and N.E. London Blood Supply Depot, Luton, are amalgamating, and from March 11 will operate as the North London Blood Supply Depot, in the charge of Dr. J. V. Shone, at Shaftesbury Avenue, East Barnet, Herts (tel.: Barnet 0165). Dr. J. V. Shone has been in joint charge of the N.W. and N.E. London Blood Supply Depots for some months.

The Royal Medical Foundation of Epsom College announces that the Conjoint Committee will award in May next a "Cheyne" annuity of £35 per annum to the spinster daughter of a medical man. Candidates must be Protestants, fully 65 years of age, whose income does not exceed £120 per annum irrespective of help from the Royal Medical Benevolent Fund. There is also vacant a "Dr. T. W. Thomas" annuity of at least £25 for a spinster daughter of a medical man in necessitous circumstances who has attained the age of 40 years. Forms of application may be obtained from the secretary, at the Secretary's Office, Epsom College, Surrey, and must be completed and returned by April 18.

Six Norwegian scientists are visiting this country under the auspices of the British Council to meet British scientists and visit universities, scientific institutions, and factories. The leader of the party is Dr. G. H. Monrad-Krohn, professor of medicine, and physician in charge of the Neurological University Clinic, Oslo.

An urgent appeal to join the Civil Nursing Reserve as emergency members is made by the Department of Health for Scotland in a letter on behalf of the Secretary of State addressed to people who have ceased to be active nurses because of marriage or other reasons. Emergency members called on for service will receive salary and emoluments at the rates currently applicable to members of the Civil Nursing Reserve; they will also be provided with uniforms. Volunteers may enrol for either whole- or part-time service, and will be accepted for service in their own district if they cannot volunteer for mobile service. Inquiries should be addressed to the Chief Nursing Officer, Department of Health for Scotland, St. Andrew's House, Edinburgh.

Sir Heneage Ogilvie, K.B.E., M.Ch., F.R.C.S., has been appointed editor of the *Practitioner* in succession to Dr. Alan Moncrieff, F.R.C.P., who has resigned on his appointment to the Nuffield chair of child health in the University of London. Sir H. Ogilvie, who received his knighthood in the New Year Honours list for distinguished services during the war, is surgeon to Guy's Hospital, a Vice-President of the Royal College of Surgeons, honorary major-general and consultant surgeon to the British Army. Prof. Moncrieff has been senior editor of the *Practitioner* since 1943, when he succeeded the late Sir Humphry Rolleston, Bt. Dr. William A. R. Thomson, who joined the *Practitioner* in 1944, will continue as associate editor.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

ANY QUESTIONS?

Biochemistry of Epilepsy

Q.—*Is there any literature on the biochemistry of epilepsy; particularly with regard to the serum calcium, phosphorus, and phosphatase? Can hyperinsulinism cause epileptic fits?*

A.—The idea that some biochemical abnormality may underlie epilepsy is at first sight so plausible that exhaustive investigations have been carried out on epileptics. We know that the liability to attacks may be influenced by changes in the acid-base equilibrium of the body, and by variations in the blood sugar, and by alterations in water concentration in the tissues. But this does not mean that any of these is the primary abnormality, and no constant biochemical change has ever been found in epileptics. Hyperinsulinism may certainly cause epileptic attacks, but spontaneous hyperinsulinism is a condition nosologically distinct from epilepsy. A full account of biochemical investigations on epileptics will be found in "Epilepsy," by W. G. Lennox and S. Cobb (*Medicine*, 1928, **7**, 105). It is there stated that blood calcium, serum phosphorus, and blood phosphatase

have all been found to be normal in epileptics by various investigators. Softening of the bones has not, so far as I know, been observed in epileptics. To be significant the observations would need to be compared with a control made on a group of non-epileptics of similar ages living in similar conditions.

Transmission of Syphilis

Q.—*A man contracted syphilis at 19, was apparently cured, married, and had one child. The child was born when the father was 31 and is now quite well, aged 7. When the father was 33 he began to get symptoms which have since proved to be those of G.P.I. There is no question of the man having contracted syphilis after his child was born. His wife is quite well and her W.R. is negative. Is there any possibility of the child being able to pass on syphilis to any children she may have?*

A.—There is no fear of the girl conveying syphilis to any children she may have. Presumably the father's syphilis dated back some eleven years before he was married ; this, together with the fact that he apparently had a good deal of treatment, would guarantee that he would not pass the disease on to his wife. Her negative serum reaction is another piece of evidence that she did not contract syphilis. It is now almost universally held that a syphilitic father cannot beget a congenital syphilitic child without infecting the mother. For confirmation the child's blood might be submitted to Wassermann and/or Kahn tests, but this does not seem necessary.

Sleepiness and Obesity

Q.—*A woman aged 40, with two children, has suffered for the past twelve months with attacks of sleepiness (which do not resemble narcolepsy). She is obese. Is this likely to be due to an endocrine dysfunction? What line of treatment should be adopted?*

A.—Pathological sleep with obesity suggests a disturbance of the pituitary–hypothalamic mechanism. Pituitary dysfunction causing a decrease in activity of the gland will result in hypersomnia and obesity, well illustrated in Dickens's Fat Boy. This decreased activity may be due to one of several causes, one of which is adenoma of the inactive chromophobe cells of the pituitary. Tumours and other lesions in the region of the third ventricle of the brain will also give these symptoms, and they are perhaps more likely to be well marked in the absence of other symptoms when due to such a lesion than when due to a disorder of the pituitary gland itself. It is therefore desirable to try to discover by neurological and radiological examination whether the endocrine dysfunction responsible for the symptoms has a local and gross cause. If it has not, medical treatment may be tried. Although direct replacement therapy might be expected to give excellent results, in most cases this is not so, and symptomatic treatment with amphetamine (benzedrine) and thyroid will probably be the most beneficial.

Oily Seborrhoea

Q.—*Can you please tell me the treatment for a greasy scalp?*

A.—Oily seborrhoea is more difficult to remedy than the dry variety, in which some form of greasy application can be used as a substitute for a natural deficiency. In oily seborrhoea the following hair lotion may be tried: tannic acid 10 gr. (0.65 g.), resorcin 4 gr. (0.25 g.), spirit of rosemary or industrial spirit 1 dr. (3.5 ml.), and water to 1 oz. (28.4 ml.). This application is unsuitable for white or grey hair, because of its staining qualities. It is significant that in women a permanent wave usually checks the greasy (oily) state for some months.

Duties of a House-governor

Q.—*What is the office of "house-governor" in a general hospital? Who or what does he govern? What are the usual qualifications required of such a person? What are his duties and responsibilities?*

A.—The chief administrative officer of a voluntary hospital is variously described as house-governor, secretary-superintendent, or secretary, and he corresponds in business life to a general manager. All matters concerning the hospital reach the chief executive committee through him, and all instructions given by that committee should be communicated to various departments by him. He is the committee's chief executive officer. He is usually required to have had considerable experience in hospital administration, and generally holds membership of the Institute of Hospital Administrators. The chief executive officer is not only the channel through which approach to the committee of management is made by anyone, medical or lay, in matters of administrative importance, but he is also responsible for the guidance of the committee in matters such as building construction and finance.

Training is usually through the medium of the junior posts in hospital service, but lately King Edward's Hospital Fund for London has inaugurated a small number of bursaries. Examinations are conducted by the Institute of Hospital Administrators and include, among other subjects, law, secretarial duties, accountancy, and a knowledge of purchasing supplies and of hospital construction. At present, recommendations have been published by the British Hospitals Association for a scale of salaries which may be used at the discretion of individual hospitals.

Aphthous Ulceration of Mouth

Q.—*An edentulous woman has aphthous ulcers, which recur in crops. She has been treated with large doses of vitamins B and C, and local antiseptics to her mouth, the most successful of which is 1% gentian violet (aqueous). Her digestion is poor. Is any other treatment indicated?*

A.—Aphthous ulceration of the mouth can be an extremely intractable condition, and several suggestions for treatment have appeared in these columns (cf. *Journal*, April 22, 1944, p. 579). The following additional suggestions are made in the present case. Penicillin lozenges sometimes help by clearing up secondary infection. The association of aphthous stomatitis with sprue and digestive disturbances suggests that there is sometimes a nutritional deficiency in these cases, and recent work indicates that the substance lacking may be related to, or identical with, the active principle of liver extract. It would therefore be a justifiable expedient to try the effect on this lady of a course of intramuscular injections of liver extract—say 4 ml. of a crude extract on alternate days.

Removing Wax from the Ears

Q.—*For removing wax from the ears glycerin and carbolic drops are rather tedious in use; is there a better solvent which works in a few minutes and which can be used with safety as often as required?*

A.—A solvent at once harmless and always readily available is liquid paraffin, which can be used just as suggested. An alternative is ether soap.

Treatment of Blushing

Q.—*Can you suggest any treatment for blushing?*

A.—Apart from a possible autonomic instability, blushing is most commonly the result of psychological causes. Blushing obviously implies shame and inferiority; the cause of this may be entirely repressed and unknown. The child who has a sense of superiority and receives a bad snub may develop a "conditioned reflex," so that whenever he is wanting to shine he is immediately seized with the inferiority complex and blushes. An interesting feature about neurotic blushing is that we find that it is not merely the blush of shame but the flush of anger, and it is as much due to a repressed aggression as a repressed feeling of shame. To cure it radically the discovery of the causes with the release of the emotions is necessary. In some cases atropine is of value, not only in affecting the end-results, but because in many cases a vicious circle has been set up: the patient does not blush because he feels shame, even unconsciously, but feels shame that he blushes. To get rid of the end-result of the blushing may break this vicious circle ; no longer fearing the blushing, he regains confidence, and no longer blushes.

Thoracoplasty

Q.—*What is the present position of thoracoplasty in the treatment of pulmonary tuberculosis?*

A.—Thoracoplasty is at present occupying an increasingly important position in the treatment of pulmonary tuberculosis. This is largely due to advances in operative technique and to improved aftercare. The modern operation of carefully graded rib resection, combined with apicolysis, is much less severe than the older Sauerbruch operation or its modifications; it has a lower mortality, can be used in the treatment of earlier disease, and closes tuberculous cavities more efficiently and certainly. Many authorities now recommend primary thoracoplasty as the treatment of choice for patients with unilateral, localized, grossly cavitated apical disease. Improvements in after-care have done much to reduce post-operative deformity and render the operation a much less mutilating procedure than it used to be. As a full account of the indications for thoracoplasty cannot be given here, the inquirer is referred to a series of papers by Price Thomas which deal with the theory, technique, and results of the modern operation (*Brit. J. Tuberc.*, 1942, **36**, 4 and 109 ; 1943, **37**, 2).

Renal Function Tests

Q.—*Fishberg suggests that the "water-concentration test" is the most delicate of all tests for renal function. As it is so simple, the question arises whether, if it shows impairment, the more laborious tests, such as the urea clearance, should also be done. What are the accepted renal function tests to-day?*

A.—Reference to A. M. Fishberg's *Hypertension and Nephritis* (1939) does not make it clear what the questioner means by the "water-concentration test," but the book contains an excellent assessment of many accepted renal function tests, on which the following reply is largely based.

One of the most delicate signs of impairment of renal function is inability to produce a concentrated urine. This is most simply tested by observing the specific gravity of the urine in the first few specimens following a twelve-hour overnight fast: the maximum specific gravity should be 1026 or over, but a figure of 1020 is usually regarded as adequate. Urinary volume must be considered with the concentrating ability, because in some conditions—for example, dehydration—there may be an inadequate blood flow

through the kidneys; functional impairment of the kidney may then be evidenced by a fall in urinary volume with a very high specific gravity. If the specific gravity of the urine can rise to 1020 or over, and the twenty-four-hour volume is 600 ml. or more, then there is no significant impairment of renal function and more elaborate and expensive tests are unnecessary.

If the above criteria are not satisfied, renal function is impaired. The next step then is to determine if the impairment is severe enough to cause retention in the blood of potential urinary constituents. This information is most conveniently given by estimation of the blood urea ; it is not given by the urinary volume and maximum specific gravity tests. Van Slyke's urea clearance test is the most popular of the clearance tests. It can detect early impairment of renal function, and is a useful method of following progress. There are many other useful tests of renal function, and the choice is often a matter of personal preference and experience ; selection and interpretation must always be made in relation to the clinical condition of the patient.

Disease and Personality Types

Q.—*In the " New Statesman and Nation " it was stated that research (apparently American) has established, among other things, that high blood pressure, coronary insufficiency, gastric ulcer, or asthma and hay-fever, are usually associated with specific types of personality, and that the sufferer from coronary disease is likely to be one who has a basic conflict with authority. Can we hear more about this?*

A.—It is impossible to answer this question in the space available. A large amount of research work of the type mentioned has been done, the effect of which is to show that patients suffering from various constitutional physical disorders do tend, *on the average*, to differ from controls in personality make-up. This does not mean that they are exclusively of one type, or that they are to be considered abnormal. These types of personality are frequently differently assessed by different observers, so that the picture of the typical sufferer from, say, gastric ulcer drawn by one expert will differ in material points from that drawn by another. The evidence regarding the incidence of particular types of psychological stress—e.g., that suggesting that coronary subjects have a conflict with authority—is often rather shaky. The commonest fault is that evidence is not given that similar conflicts are not as frequent in sufferers from other diseases.

Storage of Drugs

Q.—*Is it safe to use ether and chloroform, ampoules of morphine and of strychnine, and capsules containing barbiturates, after six years' storage?*

A.—It is not really possible to give a general reply to this question, as the condition of the drugs will depend generally on the conditions of storage over this period, and in certain cases will depend on the drugs themselves. For example, certain drugs will have kept perfectly if stored in well-closed containers in the dark, and in a dry atmosphere at a moderate temperature. On the other hand, a drug such as digitalis, even if stored under the most ideal conditions, will have lost all its potency long before now, while other drugs will be quite all right even if stored under the most varied conditions for long periods.

Regarding the specific items mentioned, the ampoules of strychnine should be all right, and the capsules containing dry powders of the barbiturates should also be all right, provided they have been kept perfectly dry. To be on the safe side, however, it would be advisable not to use either of the anaesthetics or the ampoules of morphine.

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DR. THOMAS ANDERSON (Glasgow) writes: I have been accustomed to read with interest the " Any Questions? " feature of your *Journal*, especially on matters outside my own particular province. I had assumed that the answers were authoritative, and that though differences of opinion might well exist, still, the answer was one expert's point of view based upon authentic experience. The reply on delayed resolution and pneumonia (Feb. 9, p. 225) has, however, undermined my confidence, for it seems to draw some unwarranted conclusions and to contain serious inaccuracies. To begin with, I do not think there is any evidence to support the accuracy of the first two sentences. Lipiodol will enter the area involved in an apparently normal manner. Small pockets of pus have not been an underlying cause in my own cases. After all, empyema now only occurs in some 3 to 4% of cases. Sentence three is somewhat difficult to follow. How can one recognize a condition early when, by its name, it is a late complication? The advice offered in the second part of this sentence is surely unwise, for delayed resolution is non-bacterial, so that a course of sulphonamides or penicillin will be of no avail, since neither of these materials will alter a non-bacterial pathological process. Sentence four is a matter of opinion and, of course, the writer is entitled to hold it. I have not, however, found such measures helpful in a fairly large number of cases. Sentence five is also one with which I cannot quarrel, for it must depend on clinical judgment of a method of treatment I have not tried. But the really extraordinary sentence is the last. " There is no real evidence." Is there any evidence at all? " If the former is used correctly." What is the correct method of using either drug which prevents delayed resolution? So far as pneumonia in Glasgow is concerned, delay in resolution is now the commonest complication of this disease. Serial *x*-rays have been studied in my own unit over a number of years and leave no room for doubt that, especially in those over the age of 40, the complication (defined as consolidation clinically and radiologically proved after the 35th day of illness) is exceedingly common. The exact cause can be a matter of discussion, but surely the views expressed in a recent article in the *Lancet* (Anderson, T., and Ferguson, M. S., 1945, **2**, 805) cannot just be waved aside? My purpose in writing, however, is not in any sense to push forward opposing views. It is to suggest that the answer given brushes aside as of little importance a problem which is a very serious one, and that it contains inaccuracies on matters of fact.

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At the request of the Yugoslav Government U.N.R.R.A. arranged a preliminary visit of Sir Harold Gillies to that country last summer. Following his recommendations, arrangements were made by U.N.R.R.A. for a team of British plastic surgeons to visit Belgrade to demonstrate to the Yugoslav surgeons the latest methods in plastic repair of the mutilations and injuries suffered by the Yugoslav people in the war. The authorities placed at their disposal the most modern hospital in Belgrade of 120 beds, which has, fortunately, escaped damage during the heavy bombing of the city. Already a number of operations have been carried out under the direction of Mr. James Cuthbert and Dr. Robert Shackleton. The work of the British team has been highly appreciated and the results have been seen by Marshal Tito, who recently visited the hospital with the British Ambassador. After expressing his gratitude, the Marshal remarked: " I have never seen this most important work before." Such co-operation in the human art of healing should do much to cement the bonds existing between the two countries. It is understood that the Yugoslav authorities have asked U.N.R.R.A. if arrangements could be made for the British team to extend their stay.

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SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL
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HEARD AT HEADQUARTERS

General Practitioner Hospitals

An interesting report was brought before the Hospitals Committee of the B.M.A. this week on the subject of general practitioner hospitals. A subcommittee, over which Mr. R. L. Newell presided, has been considering this question and has concluded that hospital facilities for general practitioners should be provided in all areas, whether in association with or apart from any health centres of the communal surgery type which may presently be established. Indeed, in rural areas and in some of the less dense urban areas such a hospital—which might be regarded as a diagnostic centre with the addition of beds—might be a more practicable development than scattered health centres. Behind all such proposals, however, are building difficulties, also the inadequate number of consultants and specialists (for at every general practitioner hospital a service of consultants must be at call). Thus it may be many years before full provision is made throughout the country, but it is as well that progress should be gradual, because only in the light of local experiment can any estimate be made of the number of general practitioner hospital beds likely to be required for a given population.

Hospital Survey Recommendation Criticized

The recommendations made in the various regional hospital surveys initiated by the Ministry of Health would bring about such revolutionary local changes in hospital organization that it is surprising not more protests or at least criticisms have been made in public. The surveyors have done first-class work, but in the very nature of the case they could not fully acquaint themselves with local feeling or be aware that the desired affiliation of a particular hospital to an area or region might not be what the geography would suggest. Swindon is up in arms against the proposals of the surveyors of the south-west area to include it in the Bristol region, with its proposed district hospital in the Bath area. The surveyors propose that Gloucestershire, Somerset, Wiltshire, Devon, and Cornwall should be treated as one region, with the central hospital unit located at Bristol, and that there should be six areas, one of which would be the Bath area, and which would include the Swindon hospitals. The Swindon Division of the B.M.A. called a special meeting of doctors in the area, at which a resolution of protest was carried. Swindon wants to join up with the Oxford region, which includes Berkshire, Buckinghamshire, and Oxfordshire, from the border of which it lies only some 15 miles. It is the old trouble of arbitrary county boundaries, nowhere more perplexing than in Southern England.

Hospital Planning in Cheshire

The Birkenhead and Wirral Division of the B.M.A. will note with satisfaction that the report of its Hospital Planning Committee is reproduced in full in the Ministry of Health's survey of the "Hospital Services of the North-Western Area," which was summarized in the *Journal* of Feb. 9 (p. 212). The committee's report was published in the *Supplement* at the time (Feb. 12, 1944, p. 24), and it is interesting to record that hospital areas, which were advocated by the committee, are recommended in the Ministry's survey.

1939 Panel Lists

A circular has gone out from B.M.A. Headquarters to secretaries of Panel Committees calling attention to the Panel Conference resolution of last year concerning doctors who return from the Services to find their lists seriously depleted, not because of any ill-doing on the part of their colleagues but because of the latter's inability to undertake new acceptances during their absence. A few Panel Committees have been trying to provide some compensation for these doctors by adjustments of the distribution and allocation schemes. The Panel Conference considered that any such method should be on a national scale. The difficulties of the position are clearly set out in the circular. Briefly put, the suggested arrangement is that the distribution scheme should be amended to secure to each returning practitioner for a limited period (a maximum of six quarters, thus bringing in two winters) payment out of the local practitioners fund of not less than he was receiving in 1939. But before any such scheme can be brought in the Ministry of Health needs to be assured that there is no substantial opposition from insurance practitioners in the area. The memorandum asks every Panel Committee to give the matter careful and immediate consideration, and to let the Secretary know as soon as possible whether action is favoured on a national basis or whether it should be left to each insurance area to seek approval of appropriate amendments to its scheme.

Local Authorities and Outside Work

Some local authorities do not look with favour on their medical officers engaging in outside work; to them the example of the L.C.C. may be commended. The L.C.C. has generally shown an enlightened policy in giving permission to its medical officers to undertake other work, recognizing that if, as a result, some fraction of the officer's time and energy were lost to the service it was probably more than compensated by the added experience he gained. Last year it agreed to allow a clinical director at the Maudsley Hospital to accept an appointment as consultant in medical psychology at the British Postgraduate Medical School and to retain the pay attached to the appointment, and now it has agreed to another specialist at Maudsley taking up an appointment as assistant consultant in medical psychology at the school, where his attendance will be required for one session a week, for which an honorarium of £100 a year will be payable. It is the view of the L.C.C. in this and similar cases that the additional work will not interfere with the full performance of the officer's duties, and that the experience he will gain will be of advantage to the service.

Postgraduate Training for Scottish Psychiatrists

The General Board of Control for Scotland has issued a circular similar to that of the Board of Control for England and Wales (*Supplement*, Feb. 16, p. 31) suggesting to authorities of mental hospitals and mental deficiency institutions that study-leave should be granted to medical officers who have been demobilized from the Forces and rejoined the staffs of mental hospitals and mental deficiency institutions. Prof. D. K. Henderson has expressed his willingness to provide information regarding facilities for postgraduate training, and inquiries should be sent to him at the Royal Edinburgh Hospital for Mental and Nervous Disorders, Edinburgh, 9.

Public Relations

At the recent meeting of Council of the B.M.A. the Association's public relations consultant gave an address containing some sound advice on "getting it across" to the public. The Association now has an excellent Public Relations Department, and, as a result, the Press is much more sympathetic than it was a few years ago. Moreover, about two-thirds of the Divisions have a public relations organization. But mere Press conferences which exude good will are not enough. The medium of public relations must be used more constructively and objectively in setting out the Association's policy and getting it understood and appreciated as policy shaped for the public good, not for narrow professional interests.

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